



FOOD

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Review of Exports of Agricultural
Products and Foodstuffs
from Poland No 3(54)

from Poland





We write on pp. 2 and 3 about modernization, new investments and initiatives in Polish agriculture.



We publish information on Polish vegetable juices, and on fruit, vegetable and mushroom products in pp. 26-29.



The sugar industry in Poland looks back upon a tradition of nearly 150 years. We publish information on this subject in pp. 33 to 34.



The systematical stocking of water bodies in Poland with fry guarantees high catches of valuable fish species. We publish an article by Dr. Trzebiatowski on this subject in pp. 43 to 44.



Polish pheasants, partridges, roe deer, red deer, boars and even bison are sent from Poland to many countries. Please read in pp. 11-16 about the export of

FOOD

from Poland

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The Polish economy has undergone radical changes during the last quarter of this century. From a purely agricultural country, Poland has become a highly industrialized state after 1945. These changes have exerted a considerable influence on the structure of commodities entering Polish internal and foreign trade. Thus, for example, exports of agriculture-food products, in comparative prices, are at present 60% higher than before the outbreak of World War II, although the share of these products in exports as a whole was only 13.3% in 1970, as against 41% in 1938.

Machines and equipment, products of the electronics industry, products of the chemical and ship-building industries, and consumer goods of industrial origin today constitute the basis of Polish exports. There is no doubt that the changes in the structure of Polish exports were influenced by the establishment of a socialist market (Council for Mutual Economic Assistance), aimed at mutual advantages and continuous development of all of the partners concerned. Some 60 to 70% of the total commodity trade takes place between the partners of this market. Mutual assistance and exchange between the socialist countries does not exclude nor limit any of the partners in conducting import and export transactions with any other country in the world. More than 74% of the agriculture-food products exported by Poland in 1970, and over 78% in 1972, were designated for markets in western countries, of which one third of these exports were directed to countries of the European Common Market.

Animal products or, in other words, products which almost always find markets of demand and that in any amount offered, are of dominant importance in the field of Polish exports of agriculture-food commodities.

In the transformation of the economy toward industrialization, Poland also laid strong stress on intensifying the development of its agriculture. This became especially evident after 1970 following key decisions undertaken by the Central Committee of the United Polish Workers' Party and the High Committee of the United Peasant Party regarding normalization of agricultural policies. The first months of 1971 already showed a distinct trend aimed at the development of agricultural production, as a result of which Polish agriculture increased its production by almost 12% during the period 1971 to 1972. The fact that the interest of the agricultural producers was in line with the interest of the internal Polish economic policies released numerous signs of initiative aimed at developing agriculture in all of its fields. For example the increasing of the cattle and pig populations was given first priority.

The modernization of existing livestock buildings and the construction of many new objects in line with the most modern scientific and technical achievements in world livestock building construction, assuring proper hygienic and animal development conditions, was one of the many steps taken in this respect.

In addition to and apart from higher prices paid for animals from peasant farms, additional production of beef cattle was encouraged through the contracting of young slaughter livestock (bulls, heifers, bullocks) of from 15 to 18 months of age and weighing over 400 kgs.

Work aimed at increasing the number and improving the quality of breeding and productive heifers is systematically being conducted by state farms. Low productive cattle in certain regions of Poland will be totally exchanged for breeds recommended by scientists and practicing breeders. It is planned that during the period 1973-1975 some ten thousand heifers of high value will be exported.

Considerable development trends are also to be noted in the production of swine. The number of

pigs has increased in Poland by almost 14% within the last two years. A program of inter-breed crossing is being implemented, giving better results in the reproductive usefulness of sows and in fattening such "crosses".

Production of piglets in peasant farms under contract with the Meat Industry Enterprise is developing in cooperation with state farms and between farmers. As concerns fruit and vegetable production, Poland is already well known in many countries of the world. Polish scientists and results achieved in their own as well as foreign scientific-research institutes have found world-wide recognition. Polish orchards and plantations supply foreign markets with high quality fruit and vegetables traditional in our exports. Apart from orchards existing for some time past, new ones with newly produced varieties of fruit trees and shrubs are being extensively planted, as well as, modern giant hot-houses designated for the production of various vegetables and flowers throughout the year are being constructed.

Parallel to the development of agricultural commodity exports, the development of the agriculture-food processing industry is also taking place. The traditionally natural method of processing will continue to be used in this industry simultaneously with modern technological methods for processing raw materials and food semi-products. Modern factories and cold storage plants are being equipped with both Polish high quality equipment, as also with foreign furnishings imported from world renowned firms.

The development of Polish exports of fruit and vegetable products has been greatly influenced in recent years by the growth of imports by this same industry. In order to better supply the internal market, Poland has been importing large quantities of food products, which due to climatic conditions cannot be produced and processed locally. There is, therefore, a need for gradually and systematically increasing exports of Polish agriculture-food products, especially to countries from which Poland imports such products, in order to maintain a proper trade balance. Poland has no intention of resigning from the exportation of products from an industry with many years of tradition and with favourable conditions of production. In addition, Polish agriculture-food products, exported traditionally to many western European and other countries, are highly recognized and sought for by many permanent consumers. For this reason, Poland will in the first place maintain exports of commodity surpluses of animal and plant origin to countries with which it has a long tradition of trade in this field.

Apart from traditional products — hams, pork tenderloins, bacon, meat conserves, killed poultry, sugar, potatoes, frozen goods, mustard seed, seeds, and high quality alcoholic drinks as for example, Wyborowa Vodka, Żubrówka — Bison Brand Vodka — these customers will be offered more than 460 new products released by the agriculture-food industry in 1973.

It is worthy of notice that Poland has acceded to an international organization specialized in the packaging industry. This should result in the perfection of packaging in accordance with the wishes and tastes of foreign customers.

Permanent and potential recipients are offered agriculture-food products of very high quality by Polish exporters, and, efforts are continuously being made to further raise this level.

Poland has a considerable agricultural potential at its disposal, placing the country in a foremost position among European countries. With respect to plant and animal production Poland occupies a leading position in many fields not only in Europe, but also in the world.

Wladyslaw Oryl

THE DEVELOPMENT OF AGRICULTURE — GROWTH OF EXPORTS



AGRICULTURAL
MACHINES
AND EQUIPMENT

Modern
reliable
and economical

Exported by the
Polish Foreign Trade Enterprise AGROMET-MOTOIMPORT Warszawa, Przemysłowa 26, Poland

CHOPPED PORK

a
preserve
for
any
use

Exports of Polish **Chopped Pork** — known on the British market under the PEK trademark, and in the Federal Republic of Germany as Bierschinken under the YANCO trademark — have been rapidly growing over the past few years. And no wonder, as this preserve is extremely tasty and economical. Prepared from pure pork therefore protein-rich, it contains barely 10% natural fat. Polish **Chopped pork** is made without the addition of any fillers, often used nowadays in products of this kind. It is generally known that the trend now prevailing in dietetics is to eliminate starch inasmuch as it is a weight-increasing agent. These qualities permit the modern **Chopped pork** to compete successfully on markets abroad with products having more encouraging names, such as, "chopped ham and pork".

In spite of the popularity of chopped pork in England, few buyers realize how universal this preserve is, therefore usually serving it only cold.

In the opinion of experienced housewives, however, **Chopped pork** is equally savoury as a hot dish, and it can be prepared in many ways. This versatility, combined with its flavour and appetizing appearance, permits chopped pork to be served at all meals, beginning with breakfast and finishing with fine parties. This is why it should be kept as an "iron ration" in the pantry of every practical and thrifty housewife. **Chopped pork** is a sterilized preserve, and need not be kept in a refrigerator; when cool, it can be more easily cut into thin slices. This should be remembered at making sandwiches.

Hot dishes made with chopped pork are easy to prepare in practically no time, at all, and they are really delicious. We advise you to try Chopped pork from Poland and we give you a few recipes here.



CHOPPED PORK

Chopped pork Polish style

Cut chopped pork into thick slices (about half an inch thick), dip in beaten egg and next in bread crumbs, and fry in hot fat. Serve with potatoes and a vegetable as a luncheon dish.

Hot toast

Butter bread slices on both sides and put them in a frying pan. Cover each piece with a slice of chopped pork, coat with ketchup (or put a slice of apple on top

instead), and sprinkle generously with coarsely grated cheese. Put into hot oven for 5-7 minutes. When the bread has been slightly toasted and the cheese has melted, the toast is ready to serve. Trim with a sprig of parsley, a slice of pickled cucumber, paprika or hard-boiled egg.

Omelette

Mix eggs with just a little water, like for any omelette. Cut chopped pork into small cubes or stripes. Pour eggs into a frying pan, add

the cut chopped pork and make the omelette. When ready, cover it with cooked vegetables (e.g., French beans, green peas, carrots, Brussels sprouts, or stewed mushrooms), add some seasoning (ketchup, or some other sauce), and fold the omelette. Sprinkle with chopped parsley, serve hot.

Every housewife, with a bit of imagination, will be able to modify these recipes to her liking and needs. When one has tried out all the qualities of Polish

Chopped pork, it will be easy to devise many new dishes in order to make the conventional daily fare more diversified. **Chopped pork** can be prepared in any sauce, fried, stewed, or as a casserole, served with potatoes, macaroni, rice, or with any vegetable. Do try out our recipes first, for we feel confident that Polish **Chopped pork** once tried will become a permanent product on the shopping list of every housewife.

Irena Świerżbińska

SAUSAGES FROM POLAND—REALLY DELICIOUS

The prevailing opinion is that Poles like good food. And the importance they attach to it undoubtedly accounts for the fact that Polish food — not only the one prepared by housewives, but also the factory-made lines — is produced with great care, with real concern for its taste, nutritious value and appetizing appearance.

The product which has been a Polish speciality for centuries, one that even poets referred to in their poems, are sausages. Even though tastes and customs have changed with time, sausages have maintained up to now their importance in the Polish cuisine. Evidence thereof is the fact that more than 50 per cent of the meat consumed per capita in this country are sausages. Several scores of varieties of sausages are now produced in Poland, differing by the raw material used, their flavour and appearance. In certain instances production processes are quite sophisticated, for example baking in hot smoke, a double smoking process — before and after cooking, a specific maturing system and carefully selected seasoning.

Poland has been exporting for many years a wide range of sausages which are greatly appreciated by buyers abroad. We particularly want to attract your attention to some of them.

Krakowska (Cracow) sausage: produced 5–6 cm. in diameter and 10–45 cm. long; the meat used for its making is principally gammon, cut into large pieces, with a small addition of beef. Sold in two varieties, fresh and dry (depending on how long it has been subjected to the drying process).

Dębowiecka" sausage: made from top-grade pork, after an old local recipe. It is 6.5 cm. in diameter and 15–40 cm. long. Its characteristic feature is the black, natural colour of the casing obtained by a special smoking method.

"Kabanos": made from pork, in a thin, long stick-like shape (about 1.5 cm. in diameter). It is an extra dry sausage, so that the weight of the ready product is a half of that of the fresh meat used for its making. "Kabanos" is an old delicacy, originating from the East of Poland. It was customary to serve it at hunting parties, when it was fried on a bonfire. At parties, "Kabanos" can be served "aflame": arranged on a dish, sprinkled with alcohol, put afire, and served immediately.

"Polędwica łososiowa" (Salmon "pork-loin"): made from the finest, entirely lean cut of pork, namely from loin; the narrow ring of fat around the meat loaf is its specific feature, making it look ever so appetizing. It is thanks to this fat coating that the product keeps its "juiciness" and stores so well. It is one of the few Polish varieties of uncooked meat products. Its name is derived from the beautiful colour of the meat — resembling smoked salmon. The very thing for cocktail snacks.

"Wiankowa" (ring) sausage and "Wiejska" (cottage) sausage: both kinds are made from high quality pork with addition of some beef. Produced in natural casing and bound to form a ring. They differ by the meat grinding grade and fat content. The "ring" sausage is the most typical Polish popular sausage; whereas cottage sausage is made after an old village recipe. Both can be served cold, on sandwiches; or hot — cooked or fried.

The majority of the sausages exported so far by ANIMEX Foreign Trade Enterprise are ranged among luxury goods, considering the top-grade materials used in production, the sophisticated manufacturing process, and also because they are dry products, having lost most of the water content.

Moreover, there is a low fat content in all Polish sausages. These factors are responsible for their relatively high price.

Considering that not every household can afford to buy products of such kind, every day, we have also started to produce popular varieties, much cheaper and made to satisfy the taste of our buyers. These varieties are principally intended for sandwiches, thus for being served cold; they are 10 cm in diameter, easy to slice and prepack. Durable, appetizing and — specially important for buyers — they do not dry up during storage.

Most popular among them are:

Chopped ham pork roll — a sausage made of pure pork, after the recipe of the popular Polish **chopped pork** in tins.

Luncheon meat loaf — like the former, made from pure pork according to the recipe for luncheon meat preserves.

"Mortadela" — from mixed pork and beef, well ground with addition of lard cubes, visible on the slices as small white squares.

"Serdelowa" sausage — made of very well ground pork and beef. Like "Mortadela", it is richly seasoned, which accounts for its characteristic flavour and aroma.

These four kinds of sausages were demonstrated for the first time to the British public at the Ideal Home Exhibition held in London last March. They aroused a great interest of both visitors and prospective buyers; their taste, aroma, and appetizing appearance were highly appreciated. This induced ANIMEX Foreign Trade Enterprise to include these last four varieties in the list of its exports.

Achievements and perspectives

Interview with Stanisław Stala, general director of ANIMEX, Foreign Trade Enterprise

The past year – as far as I know – was record – setting in ANIMEX's export?

"Yes, our deliveries rose to 300 m US dollars, a record in the 22 years history of ANIMEX. By the way, the export traditions of Polish goods of animal origin are much older than our enterprise. Polish ham has been well known all over the world for 50 years, Polish bacon – for over 60 years, geese – for nearly 100 years. But it was the post-war years that decided on the development of this export line linked with ANIMEX activities and which concerned the quantity, value and assortment of exported commodities.

Naturally our success in exports was determined by more profound processes taking place in the country's agriculture. Nowadays Poland imports considerable amounts of both traditional and up-to-date varieties of fodder. Both cooperatives and individual farmers use them to make meat products. The system thus conceived, which I would call a big 'meat factory', secures an ever growing volume of export products".

Therefore last year's successful effects are not the limit in your export capabilities?

"Certainly not. We have estimated the forecasts up to 1980 and 1990. They include the envisaged demand on foreign markets as well as the increase of production at home. There is no doubt that foodstuffs – or at least their considerable part – will be in short supply in the world, contrary to the situation of the past decades. As far as Poland is concerned fast development of cattle raising and meat processing in the broad sense are important factors in our economic policy. Under these circumstances and in spite of the permanent rise in the country's consumption figures, our enterprise faces new opportunities and, obviously, it will take full advantage of them".

In which line or in which group of products do you intend mainly to extend your supplies?

"It follows from what I have already said about the current trends. We believe that its growth will mainly concern beef in all varieties. Thus our enlarged offer will comprise to a large extent these products. Here I have in mind beef, slaughter cattle and fat stock, calves. It is obvious that in accordance with updated tendencies in this line of turnover we would like to be the suppliers of beef and particularly in quarters (to name but vacuum packed beef). I am talking about our plans but their implementation will be decided upon by the position which we have gained on many markets. Among regular buyers of Polish beef are the EEC countries, mainly Italy. We export beef also to other countries: Lebanon, Greece, Spain etc. Recently I was over to Lebanon where once I dined in a tiny but exquisite restaurant. Out of curiosity I asked where they got their meat from. "I serve Polish meat only" – the proprietor answered."

And besides beef?

"Tinned meat, mainly pork, will also be a significant export item. Ham is topping the export list and although USA is the biggest buyer there is probably no country in the world where Polish ham is unknown. The long standing tradition in pig breeding, a special diet, technology of meat processing – all make up for the natural delicate flavour of meat. Thanks to it Polish hams – next to Danish – rank as the best in the world. Until recently we exported them mainly in small "family sizes" packagings. Nowadays, we also supply ham in big tins destined for slicing and retail sale in small quantities. I must say that our industry has mastered this production well. Ham in big tins is even both in structure and colour.

In the West European countries Polish tinned beef is also very popular. According to the country tinned beef is exported under various trade marks, the most popular of which are: KRAKUS, ATALANTA, TALA, PEK, YANO. They are all well known and highly appreciated by our customers. I may add here that on our clients' requests we supply tinned meat processed according to their recipes. Thus we provide the Swedish market with Dill Köt, Salta Biten, Kalops.

Next to the two groups of products just mentioned our export offer comprises scores of other goods. Bacon, horses, horsemeat, fruits, breeding cattle,

poultry, wild game, ready-to-serve dishes are only some of them. A lot of these, although their export figures do not equal those of earlier mentioned products, make up for a substantial share in our deliveries and their export is expected to be further developed. I should quote two ready-to-serve dishes as an example. We only started selling them but by now we offer quite a variety of dishes to name but "shashlik", French beans-Breton style and Polish cuisine specialities: 'bigos' with Frankfurters or peas with meat. These dishes were quite a hit with some markets, particularly in the Federal Republic of Germany and we expect to considerably increase the supply."

With your obvious "culinary" approach to the subject you are bound to overlook one of the most attractive items in your offer. I have in mind saddle horses.

"Definetely not. I have not shown this trump card on purpose. As it is, we are exporting over 8000 such horses this year. 4 years ago we sold only 1200; this figure has been growing every year. We supply our clients with sports and riding horses as horse-riding has become an extremely popular past-time among young people all over the world. At the horse auctions (this year there are 9 of them) prospective customers can choose among various breeds including thoroughbred English and Arabs. We have buyers in 17 countries, most of them from Holland and the Federal Republic of Germany. As for the opinion about Polish horses let me recall a cable received from one of our clients, Mr Mike Nichols, a well known film director and owner of a racing stable. It says: "I wonder if you already know that *Elkana won US championship and Elkin placed first in the stallion group. If you sell me Estebna I will make her a champion next year and then Poland's horses will rank as the world best.*"

You have been to Rome to collect a valuable trophy, haven't you?

"Yes. This year ANIMEX won the "Golden Mercury" – a well known trophy awarded in Italy in recognition of outstanding achievements in productivity and European economic cooperation. We are honoured by the award. It proves that our enterprise's activities have been appreciated by our partners. And just by Italy, our biggest customer."

Interview by Alicja Brandys

Poland — the biggest European horse-breeder

Mr Heinz Lyra,
the DALCO representative,
KOMMANDIT
GESELLSCHAFT
H. LYRA Gmbh & Co.
the Federal Republic
of Germany

When did you establish your trade contacts with Poland's experts in horse breeding?

"I have been acting as a representative of Polish foreign trade enterprise DAL in the Federal Republic of Germany as well as the sole representative of ANIMEX in horse sale. We deal in Wielkopolska, Malopolska, English breeds, full-blood, Anglo-Arabs and full-blood Arabs. Generally speaking we sell all breeds raised in Poland except slaughter horses.

Horses are sought-after on the Federal Republic of Germany market. We have recorded a steady increase of demand. A man needs contacts with Nature and horse-riding offers wonderful opportunities to do so. Some 600,000 people of various ages go for horse-riding. In horse riding clubs there are about 260,000 members. Most of them are potential buyers of saddle horses."

What are the prospects for an increase of horse import from Poland?

"It is a good time for horse trade. It is also confirmed by the increase of turnovers in this line. For the comparison's sake let me say that the Polish export to the Federal Republic of Germany in 1970 amounted to 750 horses while in 1972 it went up to 2,500 horses. I expect that in the coming 5 years this number will be three times bigger. Polish horses attract great interest in the Federal Republic of Germany. It can be proved by a big number of visitors to the ESSENER EQUITANA exhibition organized on 27 April — 1 May 1972 in Essen, Ruhr. It was the first show of Polish saddle horses in the Federal Republic of Germany, advertized:

"Poland — the biggest horse breeder in Europe". German horse fans were shown saddle horses of the following breeds: Wielkopolska, Malopolska, English full-blood and Anglo-Arabs. Drawing on my experience I can say that horses of Wielkopolska breed, 1.65 m. high are attracting the biggest interest and are most sought-after. I visit Poland several times each year and attend the horse round-ups in Bogucice."

We always met with full understanding on the part of Polish producers

Mr Walter Drozdowski,
vicepresident of J.J. RYAN
and SONS Inc., New York

We know that your firm has been Poland's trade partner for many years. With which enterprise have you had the longest-lasting contacts?

"Our firm's trade activities are very lively and so we have built up such contacts with several Polish enterprises. Our biggest Polish trade partner is RYBEX with which we conclude large contracts on deliveries of fish preserves. The import from Poland includes first of all sardines in tomato sauce, Brisling sardines in olive oil etc. Polish fish preserves are very popular in the United States."

What is your opinion on trade cooperation with Polish fish processing industry?

"I am glad to say here that my cooperation with Polish fish processing industry is very successful. For example when the recipe requires adapting to American consumers' tastes, we have always met with full understanding on the part of Polish producers. Polish industry has been executing our orders to perfection. I have visited Polish fish processing works in Szczecin and Gdynia several times and I have always found high quality production, standard up-to-date equipment in the works, adherence to

sanitary regulations in the production processes. I hope that our cooperation will be further expanded to our mutual satisfaction."

The sale prospects of Polish foodstuffs are good

Mr Adam Bolaban,
the owner of
ADAMCA-FOOD
& CANDY MGF
of Brooklyn, USA

What could you tell us about the sales of Polish foodstuffs imported by your firm for American consumers?

"I have been importing from Poland a wide assortment of tinned meat, ready-to-serve dishes, fruit marmalade, fruits and vegetables for a dozen or so years. American consumers buy Polish foodstuffs willingly and appreciate them very much. The products delivered immediately to retail shops sell fast although on the American market the competition is very sharp. However, each market features some specific selling methods. In USA the introduction of even a minor product on the market is preceded by an enormous advertizing campaign. It is advertized by all possible media. Polish goods are not introduced on the market by such a large-scale advertizing. It seems to me that in the future one should think about making use of diversified advertizing forms also in the case of Polish products. And not because they need advertizing their quality but to acquaint with them the American consumer since he has got used to such a publicity impact by now."

What are the sale prospects of Polish foodstuffs on the US market?

"As to my firm, I am fully convinced that there are good prospects. It is proved by the fact that each year I increase the purchases of Poland's foodstuffs to quote only the 1972 figures, when the sales of these goods went up by 25 per cent."

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ATTENTION MR MAJCHRZAK DEAR FRIENDS I DONT KNOW IF YOU
HAVE HEARD THE NEWS YET ELKANA WAS UNITED STATES NATION
CHAMPION MRE TWO DAYS AGO AND ELKIN WAS UNITED STATES
NATION CHAMPION STALLION STOP CONGRATULATION TO YOU AND TO
DIRECTOR KRZYSZTAŁOWICZ AND DIRECTOR JAWOROWSKI AS THE
FINEST BREEDERS OF ARABIAN HORSES IN THE WORLD STOP IF YOU
SELL ME ESTEBNA I WILL MAKE HER NATION CHAMPION NEXT YEAR
AND THEN POLISH HORSES WILL RULE THE WORLD
STOP PLEASE CONSIDER SERIOUSLY
WHAT I REQUEST AND LET ME HEAR FROM - E
YOU STOP WARMEST REGARDS AND MANY THANKS MIKE NICHOLS
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POLAND INVITES YOU BIESZCZADY



The Bieszczady region lies in the very centre of Europe. In the very middle of the civilized and industrialized continent there is a region of primeval forests, rich and wildy growing flora, the area having a character close to the original environment of ancient virgin



forests. Here live various species of wild game very rarely encountered in those parts of the world except in the zoos.

The Bieszczady massif is the northernmost range of the East Karpaty Mountains. Their area nearing 1,000 sq.m. is especially interesting from the naturalist's point of view.

The unique character of Bieszczady, its vast forests and spacious "połoniny" i.e. mountaineous pastures covering like a colourful carpet the highest peaks and crests are admired both by tourists and naturalists.

The geographical distinctness of Bieszczady is not only seen in the shaping of the terrain and the character of the landscape but also in its flora consisting of 900 varieties of trees, bushes, grass, flowers, moss and lungwort.

BIESZCZADY

Bieszczady is closely linked with Poland and her history. The last war and the operations pursued by the nationalist guerilla detachments in the post-war years brought about the death of thousands of people and depopulated and devastated the area which once had been prosperous. Wild, almost deserted and hardly accessible for many years, Bieszczady attracted and charmed numerous admirers of nature and solitude. It was reflected in songs, legends and films. The region was named „the forgotten land”. Exuberant nature quickly did away with traces of human presence and activities. Mountains, forests, pastures and valleys began to look like they did ages ago when people only rarely appeared in this region. Bieszczady became the recess of ideal solitude of untainted charm.

For many years now the Bieszczady Mountains have come under the resettlement project aimed at taking full advantage of its natural resources.

However the civilization does not spoil the charms of the wild and picturesque region as the project takes into account the needs of environment preservation. The treasures of this land are not only minerals, timber, grass but also wild and primeval nature, beautiful landscape, pure rivers and mountain air which will serve the health and rest of the man. Comfortable roads are constructed to offer tourists the best sights. The same forests who cut down trees in the woods, are also game-keepers providing shelter and fodder for wild game.

Human activities do not always spoil the landscape. They often add more charm to it. It is enough to go to Myczkowce to get convinced about it. The waters of the artificial lake there reflect like a mirror the sur-

rounding mountains, forests, the skies and a white building of a hotel perfectly blended with the green hill. The big artificial water reservoir in Solina is even more beautiful. The windings of the San river are best accessible west of the crossroads near Smolnik. A good road, however, ends up here and further on, an exceptionally attractive section of the San river stretching up to Solina Lake is actually accessible only on foot. The approach to the Lake is very comfortable from the North. All around it there are the woods giving the idea of the ancient Karpaty forests. Some forest areas are turned into reservations. Splendid beech and fir woods have magnificent, several centuries old trees of up to 4.5 m in perimeter. This impression is heightened by rotten, downed or declining trunks covered by moss and lungwort.

When walking up towards the upper limits of the woods the beeches become more and more dwarfish, take on strange shapes, with their trunks and branches getting strangely twisted. Uprooted trees and cavities in the thicket of bushes and ferns add to the wildness of the scenery. One can meet peateries with well preserved primeval flora.

Among forests there are little lakes with glittering water. In the depths of azure green waters one may see a grim and picturesque confusion of tree trunks, roots and branches. On the lake and among the thicket one might spot wild ducks. Suddenly the forest ends and the tourist can see vast mountain meadows, „południowy” — an ocean of thick grass of various shades of green. Below there is the Bieszczady circular route. From the very top of the mountains the whole panoramic view of Bieszczady can be admired: the eastern crests and mountain meadows, spacious forest areas inhabited

by various species of wild game, and gorges of rivers between the hills.

It is not unlikely to live through a real adventure flavoured with thrill. Many a tourist will happen to face a bear, a badger, a herd of bisons... Someone may encounter a wolf, a stag or even a lynx on a lonely track.

The Bieszczady area is open to hunting. It is allowed to shoot roe deer, wild boar wolves and lynxes. In autumn the shooting season begins for pigeons, snipes, woodcocks, while in autumn and winter — also for hazel grouses. But the pride of Bieszczady forests is the stag. Compared with the one living in the lowlands it is more thickset and features more imposing antlers. The antlers of stags shot in Bieszczady have often won high awards at hunting trophies exhibitions in Poland and abroad. It is because of stags that Bieszczady is considered to be one of the most valuable hunting regions in Poland and Europe.

For those who like angling, rivers and streams offer lots of pleasure and attraction. For sport angling one may choose the lakes in Myczkowce or in Solina. The waters of the artificial reservoirs have been under an intensive fishing development scheme. New kinds and varieties of fish which were let in, live there well adapted and reach considerable sizes. Thus breams are up to 8 kg in weight, bulltrouts often exceed 3 kg, barbels and chubs — around 3 kg and more. The record setting pike weighed 17.20 kg while the carp — 10 kg. In little bays of the Solina lake one

can also catch shapely perches. Meadows and forests abound in miscellaneous flora specimens. Wild strawberries are there ready for picking as early as in June; again in the regions situated below there are raspberries. In the clearings blueberries are getting ripe already in July. In August bilberry bushes cover the mountain hill meadows like thick carpets. Beginning with August till late in autumn one can pick bilberries here. September is the month for hazel nuts.

For those who like picking mushrooms there are whole „colonies” of boletus edulis and honey fungus. On wet forest clearings there are „rydze” (lactarius deliciosus); in beech groves there are „koźlaki” (leccinum scabrum); in beech and fir woods there are „kurki” (cantharellus cibarius); in new woods one can find „maślaki” (butter mushrooms or ixocomus), while on pastures where cattle and sheep graze there is always a chance to spot forest champignons (meadow mushrooms).

Our invitation to spend holidays in Bieszczady is well justified. It is worth while coming here to live for some time in this picturesque region where the beauty of the scenery — wild and unspoiled by the civilization — harmonizes with facilities allowing for comfortable relaxation. Bieszczady offer a rare opportunity to live through an adventure and flee away from every day life, from mechanization, and automation... A holiday spent here is a guarantee of perfect rest.

B. Bolechowska

BIESZCZADY

POLAND THE MOST IMPORTANT EXPORTER OF LIVE GAME AND WILD-FOWL IN EUROPE

great many circumstances have been instrumental to this situation, i.e. climate and nature, rational management of wild game stocks, adequate capturing organization, and wild game transportation, as well as a proper game shooting organization and high-level shooting hunters.

Polish wild game is excellent for production purposes because of its good quality and immunity from diseases. This fact is being appreciated by many foreign importers who improve the quality of their own hunting grounds through the medium of importing Polish game.

Polish forests, fields, lakes, rivers and meadows have for a long time represented a natural biological habitat for numerous wild animals and birds.

Many forest massifs in Poland are relics of nature; among them are the Białowieża, Kampinoska, Augustowska, Knyszyńska, Borecka and Niepołomicka. Those virgin forests are magnificent refuges providing an excellent ecological habitat as well as deep lairs for the game. In these vast massifs and smaller areas such game, for instance the bison, bonassus, elk, the stag, the roe deer, the fallow deer, the wild boar, the lynx, the badger (*Meles taxus*) and the fox can be encountered.

Wild fowl is represented by: the woodcock, the black grouse, the hazel grouse (*Tetrastes bonasis*), the ruff (*Philomachus pugnax*) and many other birds.

For some of those animals, i.e. the bison and the elk, reserves, ensuring their existence in a state of absolute wilderness, were created.

Except for the elk, appearing free and wild mainly in the north-east, the remaining live all over the country.

The Hare

Forest officers are particularly solicitous about the hare. The female cubs several times a year.

Hare shooting being popular and of a large-scale character, the close-season lasts about 8 months in order to preserve this valuable game species. The shooting period starts in October. At this time the hare is at its best; its fur is thick, it is strongly muscled, and it finds profusion of food in the fields. Gradual worsening of the weather, rough, windy and rainy days are favourable to the formation of a rich fur protecting the animals even against the heaviest frost. This is the time of natural selection when only the strongest and soundest animals survive thanks to their ability to adapt themselves to the roughest living conditions. This Polish game is thus stronger

and bigger as compared with the game of other countries situated in the south and west of Europe. An adult hare weighs in Poland about 4 kg.) often even 5 kg.).

The meat of the Polish hare has also got a specific, uncommon tastiness and flavour which may satisfy even the most fastidious gourmet.

Captures of live hares in Poland last for three more weeks beyond the closure of the shooting period.

The stag, roe deer and wild boar rank among the big game for exports.

The Stag

The Stag designated for export is similarly remarkable as the other game from Poland in that it is resistant to hard weather conditions. It is well developed and its weight exceeds that of the stag appearing in Western Europe by 10 — 15% and even 20%; the bull weighs 100–150 kg., the hind 50–80 kgs. and the calf 25–35 kgs.). Polish stags easily withstand capture and transportation in cages.

The Roe Deer

Despite its being high-strung to capturing conditions and transportation, the roe deer is delivered to customers in good condition according to the customers' request in special tripartite cases, in sets or single, fact that all cases for transportation are lined with mattresses to prevent injuries or lesions while being transported. The Polish roe deer's (roe buck's) antlers are stronger and by 15–20% heavier than those of the West-European countries. They are delivered by vans, bigger lots — by air.





POLAND THE MOST IMPORTANT EXPORTER OF LIVE GAME AND WILD-FOWL IN EUROPE

The Wild Boar

The wild boar encountered in Poland is heavier than the West-European one and its tusks are stronger.

Wild boars are exported in lined cages with mattresses in whole-lot (about 30 animals) railway carriages according to the customer's orders.

The Pheasant

The Pheasant is one of the most beautiful representatives of wildfowl in Poland. Although it does not belong to our native fauna, but had been transplanted from a mild and warm climatic zone, it has adapted itself during the many years to the rough living conditions in Poland. This bird has been hardened and immune against diseases. Thanks to its quick and graceful movements it learned to escape its most important foes, both four-footed and winged.

The average weight exceeds 1.3 kgs. The cock is distinguished by a fine

plumage and a bright-coloured, half-meter long tail which it wears with extravaganza. The hen, having great egg-laying ability, lays about 30 eggs.

The Partridge

The partridge is conspicuous by a rich, thick plumage. It has strong feet, enabling it to escape its enemies and to feed during snowy winters. Partridges are very well muscled and lay many eggs so that nests with more than 20 eggs are often encountered. Partridges are extremely wild birds.

Capture and transportation of game and fowl

The capturing technique as well as the outfit protect the game to a high degree from being injured and making it tired. Exports of live small game and game fowl from Poland are ensured by land. Hares and fowl are delivered from the hunting grounds by fast means of transport to the despatch bases from where they are immediately forwarded to foreign buyers in special railway carriages.

For instance:

- hares — in bipartite cages into which each hare is loaded separately in the proportion of 1 male to 1 female;
- partridges and pheasants — in chip baskets with linen cover, several birds in one package (partridges — five hens and five cocks, each; pheasants — three hens and one cock, each);
- big game in cages lined with mattresses which prevent against any eventual injuries during transportation.

The majority of live game despatched abroad is escorted by trained guards.

Prior to crossing the border

The animals or birds are submitted to a careful veterinary and standardization services control. Upon thorough examination of each piece, the veterinarian issues a health certificate, being the basic condition for qualifying for exports. In the event that the veterinary regulations of the importing country require a periodical quarantine, for example, regarding fowl — it is maintained in special bases under

veterinary control. Apart from this the game is subject to one more veterinary control at the border.

During the quarantine the partridge and pheasants are kept in such a way as to ensure good condition of the birds.

Proper transportation is of great importance as regards game for breeding purposes. Thus the guard has to see to the following:

- access of fresh air to the cages and proper circulation;
- the transport accommodation and the cages kept clean;
- adequate feeding secured for each species;
- absolute calm during the whole duration of the transportation.

Shier animals feel uneasy when kept beyond the limit. Thus the period running from the very moment of capturing until despatching them should in this instance, be reduced to a minimum. Others, which are conspicuous for their considerable power of endurance and strength and which are less shy, are more at ease during the quarantine lasting many days, while some animals which are also conspicuous for their strength and power of endurance in uncomfortable living conditions, endure transport and altered habitat well.

France is the main buyer of Polish live game and game fowl. Hares from Poland run across the fields of France, sunny Italy and the Yugoslav lowlands and foothills. Pheasants and partridges, roe deer and stags, as well as live boars and even bisons leave Poland for many countries.

We may emphasize that captures and exports of small game had already started during the interwar period. The landlords used to capture the hares on their hunting grounds and to despatch them mainly to the Federal Republic of Germany getting very advantageous prices for them.

After World War II it was not until the other half of the fifties that the Co-operative JEDNOŚĆ ŁOWIECKA and the Enterprise of Forest Non-Timber Production LAS began captures and exports of small game to Western Europe. At present the **Import and Export of Animal Products ANI-MEX, Puławska 14, 02-512 Warszawa**, is the main exporter of live game and game fowl.

F. Kotowicz



THE KING OF THE FOREST

He is called the king of the virgin forest and ranks among the biggest and strongest wild animals that have lived up to now in a savage state, in freedom.

The bison *bonassus*, as it is the whom we have in mind, had in past ages been recognized as the most important game representing a royal trophy.

There are lots of descriptions in the chronicles of Polish historians and literature dealing with marvelous bison hunts. For example, in 1752 King August III shot with his companions 12 of these animals. Those

were hunts! But let us come back to reality.

The locality of Białowieża situated "in the heart" of the immense virgin forest reserve called Białowieża Forest (in the Białystok district) is nowadays a centre specializing in deliveries throughout the world of bisons bred in the said forest reserve and provided with full pedigrees as well as of bisons originating from herds living in freedom.

Stress should be laid on the fact that hundreds of bisons all over the world are namely linked with Białowieża. During the recent years some

50 bisons were despatched abroad from the Białowieża Forest centre. One may thus claim that the Polish bison has become "export goods".

Our young home livestock growing from year to year has already reached more than 20% of the total amount of these animals.

There are 374 bisons in Poland now and they are most abundant in the Białowieża Forest (240 heads). In the other forest reserves, i.e. in Niepołomice, Pszczyna, the Mazurian lake district, the Bieszczady mountainous forest reserve and in the Spała forests

there are 134, whilst the remaining bisons in zoos and forests are under the control of scientific institutes.

It is our country's proud boast that she has created the best living conditions for those wild animals reputed as being the biggest in Europe and has succeeded in securing excellent conditions of reproduction in the virgin forest reserves for the bisons. The increasing birth-rate testifies to it best.

Poland, being the bisons' native country, is at present in the lead among the countries possessing this species.



The Import and Export of Animal Products Enterprise ANIMEX is in charge of exports of bisons just as it is of other live game.

ŻUBRÓWKA

BISON BRAND VODKA — A DELICIOUS DRINK

Ranked abroad as one of the most popular and highly valued dry vodkas is Żubrówka — Bison Brand Vodka — whose aroma is derived from the special "bison" grass.

Genuine Żubrówka — Bison Brand Vodka can be made only in Poland, for only in this country — in clearings of the Białowieża Forest, the last big forest expanse in Europe — does the "bison" grass grow in its natural state; it is the delight of bison, the last forest rulers, living there in a reserve. Numerous attempts have already been made abroad to raise this grass artificially, and, it had also been tried to concoct this vodka using a variety of synthetic essences and chemical agents. None of these experiments, conducted in various countries by distinguished experts, had given satisfactory results. This can be compared with the abortive attempts at making genuine Scotch Whisky not in Scotland. The Żubrówka — Bison Brand Vodka has been made and drunk in Poland for several centuries, being specially popular with hunters.

The success of the Żubrówka — Bison Brand Vodka, and the high favour it enjoys with connoisseurs throughout the world, induced the Polish Spirit Industry to do some research concerning the production of this drink. As a result, upon recommendation of

this industry, the Fermentation Industry Institute examined in detail, by means of the most up-to-date facilities, the aroma components of the bison grass, determined its characteristic features, defined its chemical structure, and devised optimal proportions thereof. On this basis the Scientific Institute of the Herb Industry selected the most typical and prolific varieties of this grass (*Hierochloe odorata* and *Hierochloe australis*), located the sites in the Białowieża Forest where they grow, and then prepared detailed guidelines and devised methods for its gathering, drying, storing, and transport.

The Institute also determined conditions for a natural expansion in the Forest of Bison grass habitats.

The Fermentation Industry Institute also did research concerning the most economical utilization of the Bison grass, developed methods for deriving the best aroma from it. In one word, it did everything that had been possible to prepare documentation for the production of this vodka on a commercial scale without making it lose anything from its originality and unique aroma.

The Żubrówka — Bison Brand Vodka owes its aroma to the subtle smell of the bison grass and pure distilled alcohol whose fine consistence produces its per-

fect flavour. The colour of this vodka is natural. Thanks to the advice which the Institute gave upon completion of its research work, production of the basic component of the vodka — the alcohol extract from the bison grass — has been entrusted to a Spirit Industry Works having available a staff of specialists and appropriate equipment. This extract is produced under observation of closely determined parameters by means of a modern apparatus called circulatory macerator.

The high assessment of the Polish Bison Brand Vodka is its best publicity. The delicious flavour and subtle aroma, which is absolutely specific for this vodka, have been properly appreciated by the popular English novelist Somerset Maugham. This drink, he felt, contains everything: the aroma of new hay, spring flowers, and thyme and lavender.

The Żubrówka — Bison Brand Vodka is a tasty hard drink, and it has curative properties, too. At one time it was popular with local people as a medicine. Connoisseurs of good drinks prefer it cooled.

The Żubrówka — Bison Brand Vodka is used as a component to many cocktails, the most popular of which are:

Moonshine Cocktail

2 parts of Żubrówka — Bison Brand Vodka
1/2 part Bacardi light Rum
1/2 part (sweet) Vermouth
1 slice of lemon
Ice cubes. Served in glasses with a thick bottom.

Bison Sour Cocktail

2 parts of Żubrówka — Bison Brand Vodka
juice from half a grapefruit
1 teaspoonful Vermouth
1 teaspoonful of sugar
Ice cubes. Served with a slice of orange.

This is what makes Żubrówka — Bison Brand Vodka so very popular in Poland; moreover, in Polish spirits exports, it ranges next after Wódka Wyborowa.

The principal buyers of Żubrówka are: the United States, Sweden, Norway, France, Australia, Great Britain, Canada, Italy, Den-

mark, the Federal Republic of Germany; and, moreover, the USSR and GDR. A large quantity of Żubrówka — Bison Brand Vodka has been recently purchased by Japan. The Żubrówka — Bison Brand Vodka comes 40° strong; when exported to the United States, it is 50°. It is packed in bottles of various shapes: cylindrical or flat, of 0.75 l., 0.50 l., 0.375 l., and 0.05 l. capacity. The bottle labels are fine indeed, representing a bison likeness on the background of trees. Another item of interest are a few blades of original Bison grass added to every bottle. The Żubrówka — Bison Brand Vodka bottles are packed 12 or 24 to a carton. The cartons bear publicity inscriptions and drawings, similar to those on the labels. There are also on the market colourful packings holding just a single bottle, which is very suitable as a fine present, one that will always be welcomed. The high quality of the Bison Brand Vodka is confirmed by the numerous awards it fetched at many international exhibitions and competitions.

Principal are the following medals and distinctions:

- silver medal, Ljubljana 1962
- special distinction, Brussels 1963
- gold medal, Leipzig 1965
- silver medal, Paris 1967
- silver medal, Ljubljana 1968
- gold medal, London 1969
- gold medal, Brussels 1972

The production volume of the Żubrówka — Bison Brand Vodka is determined every year by the available crop of the bison grass which, for many years now, has been inadequate to meet market demand, thereby seriously handicapping exports. This is the reason why the bison grass is under close protection.

The work undertaken on the availability of Bison grass makes us confident that the demand of buyers, both at home and abroad, for this delicious and unique drink, will soon be met in full.

Wisław Hyżak
Bolesław Skrzypczak





TOBACCO

CULTIVATION, EXPORTS

Poland belongs to Europe's leading tobacco producers. The area under tobacco cultivation in Poland amounts to some 50 thous. hectares, and the annual crop of tobacco leaves is, depending on weather conditions, about 80—100 thous. tons. In terms of the amount of tobacco leaves produced, Poland is third in Europe, preceded by the USSR and Bulgaria. Tobacco is grown in Poland in regions which guarantee appropriate climatic and soil conditions.

The constant work on new tobacco varieties characterized by immunity from diseases and favourable technological properties has yielded successful results in the form of good crops and the high quality of tobacco. The values of Polish tobacco have found recognition among foreign experts and tradesmen, and, therefore, tobacco exports increase from year to year.

Particularly popular are Polish bright tobaccos, grown chiefly in the south of the country, in the Lublin, Rzeszów, Kielce and Cracow voivodships, and in the north — in the Białystok Voivodship.

Polish bright tobaccos originate from the American and Australian tobaccos of the Virginia type. This tobacco, in contrast with indigenous varieties, is characterized by a low nicotine content (0.4—0.8 per cent), light brown colour, a delicate structure of the leaves, and a nice natural aroma. Owing to these characteristics and high productiveness, Polish tobaccos are a valued cigarette filler. This type of tobacco is the main item among Polish tobacco exports, its foreign sales totalling, depending upon the crops, some 6—8 thous. tons.

FLUE-CURED variety has the biggest share in the Polish exports of tobaccos of this type. It is grown in the Lublin, Rzeszów and Kielce voivodships, which offer the best climatic and soil conditions for these tobaccos and where farmers have considerable experience in growing these varieties. The area under bright tobacco cultivation in Poland encompasses over 20 thous. hectares, which yields 35—40 thous. tons of leaves, or nearly half of the total tobacco harvest in Poland.

Moreover, a large area is taken up by

the cultivation of the dark tobaccos of AIR-CURED type, shag and cigar tobaccos (Havana). The total area under cigar tobacco cultivation is relatively small as it amounts to some 500 hectares, and the crops amount to 800—900 tons. The Polish cigar tobaccos are characterized by a delicate structure of the leaf, elasticity and a mild cigar taste. The leaves of this tobacco are graded in four classes. 1st class is used as wrapper leaves for cigars. A proof of the high quality of the tobacco is the fact that almost the whole 1st class crop is exported to Belgium and Holland, obtaining good prices. 3rd and 4th class Havana is used as a filler. Some 500 tons of 3rd 4th class tobacco is exported, constituting over half of the total crop. The cultivation of cigar tobacco concentrates in the Cracow region, where also fire-cured Kentucky type tobacco is grown. The characteristic aroma of this tobacco is achieved by way of drying and smoking together with hard oak and beech wood. When dry, the leaves of this tobacco are brown or light brown. The Kentucky variety is used for the production of cigarettes and cigars as well as for making chewing tobacco. The area in which this tobacco is cultivated in Poland is considerable and amounts to some 4.5—5 thous. hectares, and its crops, depending on the weather, total about 10 thous. tons, of which 1.5 thous. tons is exported every year.

Also the tobacco of the Pułaski variety plays an important part both in cultivation and exports. This tobacco belongs to the dark air-cured tobaccos. It is characterized by a light, nice cigar aroma and is reddish brown. The tobacco is used both for cigarette blends and as a cigar filler. The Pułaski variety is grown in the Lublin, Rzeszów, Radom and Augustów regions in an area of some 10—12 thous. hectares. The crops amount to some 15—18 thous. tons, of which over 1 thous. tons is sold abroad. The air-cured SKRONIOWSKI tobacco is cultivated on a large scale in the Grudziądz and Cracow regions. The area under Skroniowski variety cultivation is about 6—7 thous. hectares, and the annual crop amounts to some 12 thous. tons. The tobacco is used for the production of cigars and cigarette blends.

All the dark varieties — both cigarette and cigar tobaccos — are characterized by a higher nicotine content (1.5—2.0 per cent) than the bright tobaccos.

Among the strongest tobaccos is air-cured Machorka (*Nicotiana rustica*), containing 2—3 per cent of nicotine. Machorka is not exported, but is used as an admixture to certain Polish cigarette blends in order to make them stronger, in accordance with the wishes of the smokers.

As it can be seen from this brief review of tobacco cultivation and the characterization of the quality of tobaccos, Poland is a rather big producer. She exports over 10 thous. tons of tobacco annually, to the value of about 10 million U.S. dollars. It has to be said that Poland is the second biggest tobacco exporter among the socialist countries, preceded only by Bulgaria, which belongs to the world's biggest tobacco sellers.

At present, Poland exports her tobacco to 15 countries of the world, mainly to EEC and EFTA members. The FRG is the biggest buyer of Polish tobacco, increasing its purchases from year to year.

Owing to an expansion of tobacco cultivation and the introduction of new, resistant and productive varieties characterized by good technological properties, it has become possible to meet the growing demand for tobacco on the part of the home industry and to increase exports. The development and modernization of tobacco fermentation plants, and the construction of new technological lines will make it possible to further increase Polish tobacco exports.

The Polish tobacco journals include "Wiadomości Tytoniowe", a monthly devoted to the practical aspects of the cultivation, curing and classification of tobacco destined principally for tobacco industry workers and tobacco growers. The results of scientific research extensive and bibliography are printed by the quarterly "Biuletyn Informacyjny", a journal of the Central Tobacco Industry Laboratory. The Central Laboratory is a scientific centre of the tobacco industry, coordinating the research in the field of tobacco conducted in Poland.



Oil seeds

POLCARGO carries out inspection of all imported oil seeds such as — groundnuts, soya beans, palm kernels, sesame and castor seed — as well as of exported seeds such as summer and winter rape, flax, sunflower, Abyssinian cabbage, camelina, safflower, poppy-seed and mustard seed.

The inspection includes :

- quality testing, such as: determination of impurities, water content, oil content, odour, colour and pests,
- quantity determination (weighing),
- sampling,
- inspection of ship's hold, cleanliness and of other transport means,
- supervision of loading and cargo trimming.

All analyses are carried out by highly qualified POLCARGO experts in up-to-date and well equipped laboratories.

POLCARGO offers you first class services of its experts and



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CONFECTIONERY CONFECTIONERY CONFECTIONERY



CONFECTIONERY CONFECTIONERY CONFECTIONERY

The top-grade raw materials, combined with modern processing techniques and technology, permitted Poland to catch up over the past few years with the world's leading producers and exporters of confectionery. Exports of Polish confectionery products are handled by AGROS Foreign Trade Enterprise, the sole representative abroad of several dozen large

E. WEDEL delivered to its own stores in several capitals in Western Europe. Without breaking with the good old traditions, AGROS tries to introduce on foreign markets a number of Polish specialities notable for their aesthetic and original form and delicious flavour; the latter is in many instances obtained by use of unique recipes. At the same time, and in conformity

Polish confection- ery in 30 countries



factories: those run by the state, by local agencies, or by cooperatives. Exports of: hard bonbons, filled bonbons, chocolate-coated candy, lollipops, biscuits, waffles, and sesame seed candies, involving large quantities of all these lines, regularly find their way to numerous (about 30) markets in Europe, America, Africa, and Asia. Annual exports of Polish confectionery lines have reached recently 15,000 tons.

Exports of Polish confectionery began in the thirties. They were modest then, consisting principally of products from the renowned Polish firm

with the world trend now prevailing in this field exports of large quantities of other confectionery varieties are increasingly based on automated industrial production.

It is of interest to note that AGROS — inasmuch as an exporter — has been very successful in adapting the commodities exported to the tastes and likings of buyers.

What has been responsible for successful exports of confectionery over the past few years — which are, incidentally, steadily growing, especially as regards the principal buyers — are

the Polish confectionery industry owes its development in a large measure to the excellent raw materials this country has available. Known for their high quality are such products as: sugar, potato syrup, fruit pulps, honey, butter, cream.

certain Polish specialties that have become favourites abroad.

Below will be found a short list of some of the most interesting items, with descriptions of their special features, out of the more than a hundred varieties of confectionery lines exported by this country; also indicated are the countries that purchase the largest quantities thereof.

"Krówki"—Luxury Cream Fudge

The principal components of this candy of an unmatched flavour are fresh butter, milk, cream, and sugar. Wrapped in paper bearing the likeness of a cow they are enjoyed by both adults and children. Specially popular in the Federal Republic of Germany, where they are available in almost every small locality.

Design lollipops

Made from sugar and potato syrup, flavoured and coloured, they come in several colours and sizes and with a variety of designs such as: smiling faces, flowers, animals, lemons and oranges; this permits young buyers to make a "tasty" collection, one more attraction added to the candy. The design lollipops, usually coming in fine "display" cartons, have become a regular and important item of Polish export to markets in the United States, Canada, and Great Britain.

Sesame Snaps and Sesame Honey Crunch

These are rather untypical products, made in but a few countries; they contain a number of components and vitamins of special value for the body, being at the same time extremely tasty. Made from sesame seed, sugar, glucose and honey, they have actually become an AGROS favourite in Canada and the United States. Sales of sesame items have tripled over the past few years on these two markets. The steadily growing orders are evidence of their popularity.

Assorted Fruit Candies

The sweets known abroad under the name of "**Vienna Bonbons**" made with — in addition to sugar and glu-

cose — of fruit pulps (morello cherries, raspberries, black currants, strawberries, and apples), with additions of orange and lemon extracts for more aroma, are favourites with buyers in the United States, Canada, and Great Britain; the demand for them is on steady upgrade.

Chocolate-coated waffles

Among the great variety of waffles that are on the AGROS export list, the chocolate-coated **Choc-o-much** (25 g.) and **Prince Polo** (25 g. and 50 g.) are the chief favourites. The former find ready buyers in the United States and Canada; while large quantities of the latter are exported to Iceland. Even the well-known Icelandic novelist, Haldor Laxness, mentions them in his book "Kristnihald undir Jökli" as being so very popular in his country.

Honey Bonbons

Filled with natural honey, their flavour is absolutely original. Special favourites in Arab countries. Exported in various packings (lithographed boxes, polyethylene bags of different sizes).

Crispy Crunch — Choco Sweets

Filled with peanut paste, these candies are particularly crispy.

Two varieties of these sweets are made:

- regular filled bonbons, called **Crispy Crunch**, consisting principally of sugar, syrup, peanuts;
- the same peanut candies, but chocolate-coated, called **Choco-Sweets**.

The flavour of delicious **Crispy Crunch** has been very highly assessed on markets in Arab countries; while **Choco-Sweets** are among the several items regularly purchased by the Federal Republic of Germany.

Polish confectionery factories earmark every day a few wagon loads or containers of the sweet goods for export. And it is not only the commodities alone, always of top-grade quality,

that are responsible for the easy marketing of Polish confectionery; there are, besides, several other factors that account for it:

- An increasingly better sales organization, based on collaboration of AGROS with local importers specializing in these lines, whose scope and range of activity cover the entire country concerned.
- Flexible compliance with desires of buyers, inasmuch as flavour and packings are concerned; further, deliveries directly to the importer; use of packagings made specially for export, often designed for the buyer.
- Conclusion with buyers abroad of long-range agreements, providing even for special investments in industry (instalment of certain items of equipment, or of entire production lines), often based on purchase of a licence or know-how, to start production of new articles for the marketing of big quantities of which there are realistic prospects.

Also considered are various concepts of cooperation. This last form of export promotion is a new element in the activity of AGROS, and businessmen are ever so hopeful as to the outcome. The first experiences as well as the negotiations now in progress are evidence that results are sure to meet expectations in this field. And it can be claimed even today that these results will be another success, both as regards quantity and quality, in the development of exports of Polish confectionery lines.

Offering regular services in export of a wide range of products, AGROS is ready to examine any kind of suggestion as to long-range cooperation (to include co-production), the outcome of which would be supplies of Polish confectionery to further millions of connoisseurs of sweetmeats throughout the world.

Please remember: Sole exporter is AGROS, Warszawa, Poland.

Z. Gaber-Sobierajska

Control of Forest Fruit and Fruit and Vegetable Preserves



Forest fruit and fruit and vegetable preserves constitute a considerable share in terms of quantity among the goods which are subject to an inspection by POLCARGO – International Superintendence and Testing Services, Gdynia.

In the forests which cover about 22% of Poland i.e., about 7.73 million hectares, there are immeasurable resources of fruit and mushrooms which are generally defined as "forest fruit".

Fresh fruit and mushrooms

The "forest fruit" comprise a rich assortment of fruit and mushrooms, out of which the following deserve mentioning:

Fruit

Bilberry (*Vaccinium myrtillus*), red bilberry (*Vaccinium vitis-idaea*), cranberry (*Oxycoccus quadripetalus*), raspberry (*Rubus idaeus*), blackberry (*Rubus caesius*), wild strawberry (*Fragaria vesca*), sea buckthorn (*Hippophae*), various types of rose fruit (*Rosa canina*, *Rosa rugosa* and others), common elder (*Sambucus nigra*), rowan tree fruit (*Sorbus aucuparia*), hawthorn (*Crataegus*) and many, many other assortments of fruit gathered and exported in smaller quantities.

Mushrooms

Edible boletus (*Boletus edulis*), chanterelle (*Cantharellus cibarius*), brown-yellow boletus (*Suillus luteus*), saffron milk cap (*Lactarius deliciosus*), firwood agaric (*Tricholoma equestre*), dingy agaric (*Tricholoma portentosum*), honey-coloured agaric (*Armillariella mellea*), edible gyromitra (*Gyromitra esculenta*) and many other kinds of mushrooms which are gathered in smaller quantities in various regions of the country.

Taking into account the mushrooms which grow in Poland, it is necessary to mention the common field-mushroom (*Agaricus campester*). It grows wildly in the meadows and fields, but as such it is of secondary signifi-

becoming more and more popular, and it is just this mushroom which is exported first of all.

The forest fruit and mushrooms are very tasteful, nutritious and wholesome.

In comparison with the cultivated fruit, forest fruit is more aromatic; it has more organic acids and tanning agents; it is of intense and lively colour; and some of it is extremely valuable because of considerable contents of vitamin C. For example, the contents of vitamin C in sea buckthorn amounts to 200 mg% and in rose fruit (depending on the type) the contents of vitamin C range from 400 to 1500 mg%.

The components of mushrooms are water amounting to about 90% and dry substance which makes about 10%.

The most important from the point of view of their nutritious value is protein which amounts to about 40% of the dry substance and is assimilated by the human organism in about 70%.

Apart from protein, the most valuable components of mushrooms comprise mineral salts, chiefly phosphorus and potassium salts as well as vitamins of the B group and A, PP and D.

Generally speaking, the characteristic feature of the forest fruit is on one hand the high nutritious value and tastefulness but on the other hand it is a very delicate assortment, often – for instance mushrooms, which are perishable, requiring much care both when gathered, transported and processed. Since the forest fruit is exported to many countries, POLCARGO which works on domestic and foreign orders, has a numerous staff of highly qualified specialists in forest fruit.

POLCARGO Branch Offices are localized all over Poland both at the ports of Gdynia, Gdańsk and Szczecin and at the frontier crossing points as well as in the major towns of Poland – practically covering the entire area of the country.

The inspections of POLCARGO are carried out depending on the request and necessity, during the preparation of fruit and fresh mushrooms for export at loading centres, situated inland and, or during loading into vessels at sea ports or into trucks and railway wagons at loading stations. The inspection of POLCARGO consists in the assessment of quality, freshness, contents of vitamin C, size, proper cleaning, packing, cleanliness of the transport means, adequate supply of ice and other attendance requested by clients. These inspections are carried out in accordance with the customers' requirements on the basis of the contract stipulations or the quality requirements demanded by the clients or foreign and domestic standards.

Preserves and Semi-preserves

Forest fruit is a perfect raw material for preserving purposes, and is processed for semi-preserves and preserves such as: pulps, pasteurized and chemically preserved fruit juices, deep-frozen fruit, stewed fruit, pasteurized fruit, jams, dried fruit and mushrooms, mushrooms in brine, pickled mushrooms, sterilized mushrooms and many others.

All these products are attended to by POLCARGO.

A very important field within the activity of POLCARGO are preserves and semi-preserves made of fruit and vegetables obtained from the dynamically developing horticultural production in Poland (strawberries, raspberries, black and red currants, gooseberries, apples, cherries, plums, green peas, green beans, cucumbers, tomatoes and many others).

The preserves and semi-preserves comprise among other things pulps, fruit juices and their concentrates, deep-frozen fruit and vegetables, nectars, stewed fruit, pasteurized fruit, jams, dried fruit and vegetables, pickled and dilled cucumbers, preserved green beans and green peas, tomato preserves and many other things being produced and exported. Preserves and semi-preserves of "forest fruit", fruit and vegetables are inspected by POLCARGO in all the aspects, including their organoleptic and physico-chemical properties.

These inspections are effected depending on the necessity, either at the processing plants or at the ports of loading.

POLCARGO employs in its Branch Offices a staff of experienced highly qualified and reliable specialists who guarantee accurate and efficient execution of the inspection orders.

The physico-chemical assessments are made in the Central Laboratory of POLCARGO localized in the Gdynia Harbour, the laboratory being equipped with up-to-date apparatus, thanks to which it is possible to carry out all kinds of analyses there.

As regards the fruit, vegetable, and mushroom preserves, depending on the requirements, the laboratory ascertains the contents of: extract, sugars, general and volatile acidity, the alcohol, salt, water, vitamin C, preserving and dyeing agents, heavy metals and so on.

POLCARGO also inspects merchandise abroad, delegating there, if necessary, its own specialists. POLCARGO also takes advantage of services of experienced foreign superintending firms, co-operating with the COMPANY.

In a mush- rooming centre



Not far from the town of Drawsko, situated about 100 km. from Poznań, known for the International Fair held there every year, there is a large forest full of mushrooms. The forest is a remnant of the primeval forest on the Noteć River. In that region there is one of the 2,500 rural communities which are affiliated to the Central Agricultural Union of "Samopomoc Chłopska" ("Peasant Self-Aid"). There were two reasons why POLCOOP, Foreign Trade Enterprise of Warszawa, decided to establish close contacts with the Drawsko rural community co-operative; namely, large quantities of mushrooms in the nearby forest, and a growing demand for fresh mushrooms and preserved mushrooms from abroad. A rapid development of the co-operative started when close relations were established with the Enterprise of Polcoop. In 1972 the rural community co-operative at Drawsko purchased from individual mushroom gatherers a record quantity of fresh chanterelle and edible boletus as well as several tons of mushrooms dried after the manner of the country people – specially at the demand of POLCOOP's customers who are interested in just such a type of merchandise. The rural community co-operative instructs the mushroom gatherers and enables to immediately sell the mushrooms.

Large quantities of mushrooms gathered in that region have induced the rural community co-operative at Drawsko to develop the mushroom processing factory, particularly since large areas of the forest have not yet been penetrated by the mushroom gatherers, and that there are reserves in mushrooms there even in a year of bad crop. Thus, as the result of the development programme at Drawski Młyn not far from Drawsko, a modern mushroom processing factory consisting of two ample production halls and a warehouse have been constructed. This investment has been praised by representatives of importers from the Federal Republic of Germany and Italy, who have paid a visit to the rural community co-operative at the invitation of POLCOOP. This resulted in the conclusion of new contracts. Last season fresh mushrooms, properly cleaned, sorted and selected, were continuously sent in chip baskets by lorries not only to West Berlin, which is situated about 200 km. from Drawsko, but also to the FRG firms in Munich and Hamburg which sell chanterelle on a commission basis.

The mushrooms processings factory has also prepared very good dried mushroom of a very high quality. When preparing the dried mushrooms the factory followed the principle that the edible boletus should be, at first, dried two days in late-autumn sun rays before they are dried in a closed drying chamber, in which they are dried by the heat of electric radiators and heated air blown into the chamber by special fans. As the result of this process, the humidity of the mushrooms evaporates and eight hours later the mushrooms are dried according to the buyers' demand and have low degree of humidity, conforming to the Polish export norms.

The mushroom processing factory has in its possession copies of quality certificates issued by the inspectors of the Quality Inspection Office (Polish abbreviation: CIS), which as a State quality control organ, examines the merchandise before it is exported abroad. Mr Zygmunt Cagara, M.Sc., and inspector of CIS states in one of his quality control certificates: *the load of dried mushrooms (edible boletus) is uniform in respect to quality. The mushrooms are free of impurities, such as litter of conifer needles or moss, making it possible to state that the mushrooms are pure. The degree of dryness proper and humidity does not exceed 12%. The mushrooms are free of worms. Packing – polyethylene bags in cartons made of corrugated board – are good. The merchandise has*

The certificates of good quality of the merchandise issued by CIS are confirmed by favourable opinions of the buyers. Many foreign buyers do appreciate the quality of the Polish fresh and dried mushrooms as well as of preserved mushrooms.

Dried edible boletus were exported from Drawsko to Italy, Switzerland, the FRG and USA. Canadian importers have ordered an extra quality of mushrooms, namely exclusively white dried caps of edible boletus. A similar shipment was prepared for London. British buyers have also imported from Drawsko dried edible fungus.

Importers from the FRG have displayed interest in edible fungus in brine. Each season a few or several tons of mushrooms, such as edible fungus, brown-yellow boletus, tricholoma and chanterelle in brine, are exported in 100-kg barrels, first of all, to different regions of the Federal Republic of Germany.

As is generally known, mushrooms in brine are a very fine semi-finished product for making various preserves of mushrooms. POLCOOP has encouraged the specialists (foremen and technologists) to make the above preserves for export. They have begun with the production of marinated edible boletus packed in small twist-off jars. About 8,000 jars have been exported in the first lot to USA where the importers from New York and Chicago have immediately sold the merchandise. It must be said that the marinated edible boletus is exquisite in taste. To make marinated edible boletus, the best quality mushrooms of different size are taken out of the brine, quickly de-salted, and put into jars. Next, marinade, prepared according to a special recipe and seasoned only with such natural condiments as mustard seed, bay leaves, and pimento, is poured over the mushrooms. Foreign buyers are fully satisfied with the marinated mushrooms prepared in the said manner. The Drawsko co-operative attaches great importance to a careful preparation of the mushrooms. The edible boletus to be marinated are hand-picked, which makes it possible to achieve the quality and aesthetic effects which are impossible to obtain in conditions of full automation. The number of marinated mushrooms is always proper in each jar. The mushrooms are solid and carefully selected. Slices of onions and carrots, cut in ornamental manner, are added to each jar as garnishing.

The mushroom processing factory of Drawsko initiates also the production of marinated edible fungus and tricholoma. It also offers for export sterilized chanterelle in tins, which is in high demand particularly in the FRG and dried gyromitra.

Taking into account that the said factory is a newly established one, its regular and punctuality of deliveries, which as a rule, are characteristic of experienced exporters, as well as the high quality of the merchandise, the activity of the factory must be highly appreciated. POLCOOP also takes care to consolidate the good opinion of this factory among the producers and buyers of processed mushrooms. POLCOOP's specialists in the mushroom problems often pay visits to that factory at Drawsko.

Development of small but well organized co-operatives in the regions of Poland full of mushrooms, the rural community co-operative at Drawsko included, also helps to consolidate the good opinion of POLCOOP as an exporter of mushrooms to world markets and to initiate exports of such unconventional tasks as, for example, export of fir-cones for decorative purposes to Austria and the Federal Republic of Germany. The rural community co-operative at Drawsko and its mushroom processing factory at Drawski Młyn may be used as examples of well organized production.

KRAKUS

brand fruit and vegetable products –
the source of vitamins for every
season

maintain their aroma and savour
even after long-lasting storage.

For use basic dishes
(e.g. some vegetable products)
or as additions to the meals.



All the fruit and vegetable preserves listed above are exported through the following three foreign trade enterprises in Warszawa: AGROS, HORTEX and POLCOOP. Drinking juices and asparagus are exported only by AGROS.

ational nutrition – this is the principle which makes it necessary to provide the human organism with all the nutritional components which are adequate to health.

Drinking juices perfectly comply with this requirement because as a rule they contain a majority of vitamins and nutritional components. They also represent such a form of a food product which is best assimilable by the human organism. Due to the nutritional properties of these juices the Polish fruit and vegetable industry developed a large-scale production of tomato juice and carrot juice as the most popular natural juices a few years ago. Production of other homogeneous juices such as celery juice, red-beet juice, spinach juice, cucumber juice and sauerkraut juice was developed later. Only recently production of two and multivegetable juices has been initiated and they are now also offered for export. A wide range of vegetable juices makes it possible to meet the requirements of numerous gourmands of this type of products.

POLISH VEGETABLE JUICES CURE, REFRESH AND TASTE WELL

The Polish vegetable juices are grouped in two principal types: ● natural one-vegetable and multivegetable juices, and ● fermented vegetable juices.

The one-vegetable and multivegetable juices are made of pulped fresh vegetables, if necessary with addition of different ingredients, processed according to a special technology and thermally preserved in jars or bottles. On the other hand, the fermented vegetable juices are also produced from pulped fresh vegetables but after a preliminary treatment, the lactic acid fermentation is carried out under control. When the fermentation process is over the juices are seasoned according to taste and thermally preserved. It should be emphasized that the Polish technology forbids artificial colouring, chemical preservatives, artificial sweetening agents, etc.

All the above said juices have very quickly found regular consumers in Poland and at the same time the homogeneous vegetable juices have been classified into the group of export products.

Apart from the traditional homogeneous vegetable juices which are already known to foreign buyers, we recommend the following export novelties:

MULTIVEGETABLE JUICE V-6 with a mild flavour or a piquant flavour. This juice is produced of a mixture of pulped tomato, carrot, red pepper, celery, leek and parsley in adequate proportions with addition of flavour substances extracted from various vegetables, sugar and salt. Processed according to a special technology and thermally preserved, it is offered in the traditional tins of 0.4 ltr capacity or in ring-pull tins of 0.35 ltr capacity. The V-6 juice with a mild flavour is of orange-red colour, characteristic to a mixture of the tomato juice with carrot juice added. But the V-6 piquant juice is of light red colour, characteristic to a mixture of the tomato juice and red pepper juice, toned down a little with juices of white root crops. These juices are of a slightly sour mild or piquant flavour, characteristic for the vegetables used for their production.

Presenting the Polish V-6 vegetable juices, it is necessary to emphasize that they have been thoroughly tested from the point of view of their dietetical properties by the Institute of Nutrition and Foodstuffs in Warsaw as well as by the Dietetic Laboratory in the Internal Diseases

It has been found, among other things, that a regular drinking of one glass of the V-6 juice a day in a short time increases the quantity of Vitamin A in blood. It has also been found that there is a large quantity of Vitamins B¹, B², C, PP and H. For this reason a systematic drinking of the mild V-6 juice is recommended to children and convalescents. At all degustations organized at different institutions, including the Ministry of Health, the Ministry of Food Industry and Purchases, the Ministry of Domestic Trade, the Fermentation Industry Institute and many other scientific institutes and public opinion centres, the multivegetable juices have in each case been given a very favourable opinion and they have been recognized as a perfect product for mass consumption, particularly due to their health-giving properties.

MULTIVEGETABLE JUICE V-5 is similar to the V-6 juice. It differs from the latter in that it does not contain red pepper. It may be used by persons who do not like the taste of red pepper.

The flavouring and dietetical properties of the V-5 juice are similar to the V-6 juices but it contains somewhat less vitamin A (although it is enriched with this vitamin by carotin extract).

MULTIVEGETABLE JUICE V-4. It is composed of red-beet, carrot, celery and leek juices. Besides its nutritional and refreshing properties it sets back the development of cancer cells. The V-4 juice has these properties owing to some anthocyanins present in the red-beet juice which is the principal component of the V-4 juice.

At this opportunity we also inform our readers that the Polish fruit and vegetable industry offers (for culinary and above-mentioned therapeutic purposes) concentrated red beet juice containing 60 weight per cent of soluble solids with a tolerance of 2 per cent as well as about 2.8 per cent acidity in terms of citric acid. This concentrate is sweet-sour in taste, characteristic of the red beet juice. This concentrate is used for making various drinking juices, beet root soup, jellies, etc. It is also used for colouring meat in meat processing. The red beet concentrate is sold in bottles of 0.375 ltr, TO jars of 0.2 ltr and jars of 25 ltrs.

MULTIVEGETABLE JUICE V-2 is produced of tomato and celery juices. It is perfectly refreshing and strengthening. It may also be used for cocktails and drinks.

In the group of two-vegetable juices the industry also recommends:

TOMATO AND CUCUMBER JUICE slightly salty in taste. This juice is very refreshing and nice to drink.

Besides the above-enumerated natural juices, the Polish industry produces: fermented juice of carrots and fermented juice of spinach.

THE FERMENTED JUICE OF CARROTS has a high content of provitamine A (B-carotene) in a form which is very easily assimilable by the human organism (the assimilability of β -carotin amounts to 90 per cent in terms of large β in comparison with a 20 per cent assimilability of β -carotin of the natural carrot juice). The contents of this provitamine in the fermented juice of carrots is 20 times higher than in orange juice. Besides, the fermented juice of carrots contains about 30 mgs of vitamin C which is added to the juice during the technological process to stabilize its colour.

FERMENTED JUICE OF SPINACH is produced of pulped spinach. This juice does not look appetizingly because of its green-grey colour, but it is very valuable. It contains almost no oxalic acid, but it contains folic acid (provitamin B¹) which prevents anaemia very effectively. Besides their high contents of vitamins and minerals as well as nutritional properties the above said fermented juices contain acetylcholine (product of lactic fermentation) which lowers blood pressure and accelerates digestion of food as a result of intensive secretion of gastric acid.

Apart from their nutritional and flavouring properties, all the vegetable juices have also some therapeutical properties recommended to obese persons or persons willing to keep a slim figure (the juices have a low caloric content), to persons with a low secretion of gastric acid, a lack of appetite as well as to convalescents and sportsmen. Worth pointing out is also the fact that these juices, due to their high contents of minerals, help maintain the balance of water which is very vital for the human organism. It is also a very important property of these juices that they contain cellulose which maintains regular peristalsis of intestines; this has a very favourable effect on the digestive system of the human organism. And, as mentioned above, these juices are very refreshing. Regular drinking of these juices ensures perfect comfort and health.

“POLISH BREAD”

FROM POLISH RYE

The attention of businessmen and firms studying the food market is drawn towards an increased interest of consumers — particularly those more fastidious — in rye bread. Such bread with an addition of malt or natural honey has become a delicacy in the households in France, Great Britain, the Federal Republic of Germany and Scandinavian countries. It is the bread not easy to buy on those markets, especially in the big stores and self-service shops which accustomed their clients to standard wheat bread of a fairly poor taste. Consumers, many a time, compare it to cotton wool.

Thus the demand for rye bread is met by small shops which have often established direct contacts with the country and farms where bread is still home-baked in ovens or at small bakeries. Such bread is getting more and more competitive even for the fashionable slimmers' bread.

It is rather interesting that the whole meal bread, for instance rye bread with honey is a delicacy for foreign tourists in Poland. Some hotels and restaurants in Poland have such bread on their breakfast menu. Sometimes it is the bread baked in their own bakeries.

In many countries the whole-meal bread is sought after particularly by tourists from the United States, the Federal Republic of Germany and France. As it is well known, bread is a staple

a sizeable importer of rye for baking purposes.

These new phenomena on the food market in many a country have induced trades to re-evaluate the situation and draw the necessary conclusions for the near future.

Over the recent years the world crops of rye have been ninefold decreased as compared to the crops of wheat which belongs to the varieties of corn of the highest consumption level in the world. The rye production goes down slowly. However, in 1972 this decrease was considerably bigger than predicted, the reason for it being unfavourable weather conditions in the Soviet Union, where the corn harvested did not reach the expected level. As it is well known the Soviet Union is the world's biggest rye producer. Also in North America less rye was harvested.

The rye production is concentrated mainly in the European countries — members of CMEA, which supply 83 per cent of the world crops, with Poland coming 2nd. In Poland rye is the most popular corn, with its cultivation covering ca 4m ha. The traditions of rye growing are particularly strong in little farms where the fields are manure-fertilized and traditional farming methods are used. Rye crops in Poland are among the highest in the world. Flour from Polish

and flavour, what is generally maintained by tourists coming to Poland. Often whole-meal bread with honey, which is widely available on the local market is the final purchase of tourists leaving Poland on their way home. In Poland there are special climatic and soil conditions as well as traditions of rye cultivation, handed over from one generation to the other, which add up to a very peculiar taste of Polish flour and bread. Also great nutritive values have been discovered in the rye bread. Recommended specially in cases of hyperacidity, the rye bread — particularly its whole-meal variety — regulates the digestive system. Along with carbohydrates this bread contains many mineral components and vegetable proteins. It is recommended above all in slimming diets applied after excessive eating of sugar and sweets — popular faults in European diet. It is said to improve the colour of teeth and their health. An essential detail is packing the bread in foil to keep it fresh for longer periods. It is very valuable for tourists taking longer trips.

All the arguments make far-sighted tradesmen get interested in this food-stuff which is soon likely to conquer markets in many European and American countries.

There is no doubt whatsoever that in the future Poland will be one of big

known economic analysis forecasting gradual decrease in the world rye cultivation. It will lead to considerable difficulties in rye purchases to cover the needs of bakeries. This situation should draw the importers' attention to Poland as a potential and actually existing rye supplier on the world markets. For a considerable time now Poland has supplied rye to the Federal Republic of Germany, the German Democratic Republic, Czechoslovakia, Austria, Scandinavian countries and even Holland, Great Britain and Switzerland.

In the near future a significant increase of rye cultivation in Poland is to be

expected as well as further improvement of its quality. The above are the problems which are under study in Poland's centres for rye cultivation.

New rye varieties which appear on the Polish market feature high crops. In the past two years on the areas of several hundred hectares in Poland the harvested crops amounted to over 40 quintals per ha what has not been obtained anywhere else in the world. The record crop in one of the plantations of a state-owned farm exceeded 60 quintals per ha.

These and other symptoms attract the interest in Poland as a big and promising producer of rye for the

bakeries which are bound to increase the production of rye and whole-meal bread to an ever larger extent.

Obviously rye bread is getting fashionable and perhaps it will become known all over the world as "Polish bread" as it has been the case for a long time now with Polish ham, "Swiss cheese" or "Italian spaghetti". Who knows whether such an international set of products does not present opportunities for a cooperation of its kind, allowing for fuller meeting the tastes of fastidious consumers.

A. Zalewski



HIGH YIELDS FROM POLISH SUGAR BEET SEEDS



to the specifically favorable climatic and soil conditions in Poland, not only growing and breeding of sugar beets developed in this country as early as the XIX century, but also the sugar processing industry, as a result of which Poland became one of the most important exporters of sugar beet seed, sugar, and modern sugar factories. Breeding and production of sugar beet seeds has its tradition in Poland of more than one hundred years. The Sugar Beet Breeding Centre of A. JANASZ AND COMPANY was established in 1881, and its greatest achievement was the breeding of the diploid variety **AJ 1** with the highest sugar content in the world. The breeding material composing this variety was of such high genetic value that it continues to be used in crossings, although the variety **AJ 1** has already been dropped from production.

As a result of the above-mentioned, new Polish polyploid varieties are characterized by a very high sugar content of the root. Current breeding work on sugar beets is concentrated in the state undertaking "Hodowla Buraka Cukrowego - HBC" ("Sugar Beet Breeding") which also includes the firm of A. JANASZ. This state enterprise not only undertakes breeding work, but also produces certified seed designated for plantations directed toward production for sugar factory requirements. Annual production of seed exceeds 12 thousand tons, an amount sufficient for covering both indigenous needs and for export purposes.

The area under sugar beets in Poland amounts to around 430 thousand hectares and is seeded exclusively with Polish varieties. They are characterized by a high degree of polarization and by excellent yields of sugar per hectare. Some 95% of the total area of sugar beets is seeded with **AJ** varieties produced by A. JANASZ. Creative breeding and maintenance of these varieties is carried out at the Plant Breeding Station in Straszów (Poznań Voivodship) and in Smółów (Kielce Voivodship).

The outstanding polyploid varieties such as **A. Janasz Poly 1**, **AJ Poly 2**, **AJ Polycama** are extensively grown in Poland, and are likewise well known and valued in many European and other countries of the world.

The mentioned polyploid varieties are medium early with high adaptive capability, and give good yields under various climatic and soil conditions. Resistant to drought and heat, they nevertheless give high yields and higher sugar content under conditions of intensive insolation. The varieties **AJ Poly 1** and **AJ Polycama** are characterized by a high sugar content of roots (polarization), which in Polish climatic conditions exceeds 20%. On the other hand the variety **AJ Poly 2** gives higher yields, with roots showing good but somewhat lower polarization. All three varieties are characterized by well shaped, smooth roots without lateral growths, with medium high tops, and are easy to harvest both by hand and by machine. Due to the low fiber content of roots, the pulp is relatively soft thereby facilitating work of the slicer in the sugar factory.

The mentioned varieties are healthy, resistant to the more important fungal and viral diseases. They are characterized by high juice purity, and low content of soluble sodium, potassium and harmful nitrogen. These varieties show no tendency to bolting.

Due to the mentioned properties, Polish sugar beet varieties are well known and sought for on world markets. They are exported to many countries of Europe, the Near East and Asia. They are especially well adapted to climatic conditions existing in such countries as Austria, Italy, Spain, Morocco, the Baltic countries, the USSR, China, Japan and other countries.

Polish plant breeders continue in their efforts to further improve the valuable qualitative properties of varieties and to adapt them as well as possible to the climatic and cultivation requirements of importing countries. With this in mind experimental seedlings of breeding material under provocative conditions are conducted, that is under severe northern climatic conditions of Poland and Holland, as well as under warm Mediterranean climatic conditions of southern Italy and Spain.

Experimental trials referring to breeding are carried out in Poland on many thousands of experimental plots, in analytical and biochemical laboratories. In order to assure that a given possesses the

qualitative properties required by breeders, many improper lines and strains are eliminated during these tests. Only the most valuable fit for further breeding are retained. Biochemical laboratories conduct investigations on chemical factors which assure the high technical value of the beet. Some 100 thousand roots are subjected each year to cytological examinations.

Irrespective of the basic qualitative properties such as yielding capability and sugar content, breeding work also gives considerable attention to other requirements made by the sugar industry and by agriculture such as:

- elimination of the tendency to bolting both in spring as well as autumn seedlings,
- total elimination of lines and strains showing excessive fibrous properties of the root,
- decreasing the content of soluble sodium and potassium as also harmful nitrogen to a minimum,
- maintaining proper root smoothness and shape, properties which facilitate mechanical harvesting and decrease soilage with earth to a minimum,
- increasing fungal and viral disease resistance,
- selection of lines and strains from the point of view of optimal vegetative development in low temperatures and less favourable conditions of production.

Intensive breeding work is being carried out in recent years on to genetic monogerm varieties possessing the same qualitatively positive properties as normal multi-germ varieties. This would allow for almost totally eliminating manual labour (thinning) in sugar beet production and thus considerably decrease costs of production.

Breeders already possess several lines of monogerm seeds showing valuable technological properties. A new Polish genetic monogerm variety, **TRIMONO**, will be introduced on the market within the next few years.

Irrespective of the above Poland has now for several years been exporting mechanically prepared precision seeds showing high germination and monogermity. At the request of customers such seed can also be pelleted. This operation results in considerably facilitating seeding and sprouting, and protects the young plants against diseases, pests at the difficult initial vegetation stage.

Production of certified commercial seed is likewise concentrated in the previously mentioned HBC enterprise and takes place in modern agrotechnical conditions under strict phytosanitary control. The mentioned establishment possesses well equipped storages and cleaning centres in which the seed supplied by producers is brought to the required standard of quality. It also disposes of laboratories for controlling the quality of supplied raw material and lots of seed prepared for shipment. "Sugar Beet Breeding" also possesses the proper equipment for grading and preparing precision seeds.

The commodity is prepared and supplied for export in accordance with the rules and regulations obligatory in international trade. Quality standards are certified by ISTA (International Seed Testing Association) international orange certificates, healthiness by official phytosanitary certificate, and variety purity by OECD certificate.

H. Wroczyńska

The **Foreign Trade Enterprise ROLIMPEX** is the sole exporter of Polish varieties of sugar beet seed.

Address: **Aleje Jerozolimskie 44, 00-024 Warszawa, Poland.**

Cable: **ROLIMPEX Warszawa**
telex 814341 Rolimpe

The sugar beet is of fundamental importance in the economy, it is the basis for sugar production, a valuable food product, and supplies agriculture with high valued feed - sugar beet pulp, molasses and leaves.

The first sugar factory for processing beets was founded on Polish lands, in Silesia. Here, therefore is the cradle of sugar beet production, and it is here that the development of the sugar industry began.

SCIENCE AND TECHNOLOGY

Actual development possibilities

The significance of sugar in human nutrition is growing continuously throughout the world as a valuable and indispensable food product ever since man acquired it. The importance of saccharose has increased considerably with the finding and putting into cultivation of suitable and productive plants, and upon acquiring the skill to produce sugar from agricultural raw materials on a technical scale. This took place in Poland in 1826 with the putting in service of the Częstocice sugar factory and production of the first ton of sugar in the form of fine crystals. Thus several years the Polish sugar industry will celebrate the 150th anniversary of its very fruitful and useful existence. During this period it

Every reason exists, therefore, for the continuous intensive development of this branch of economy. Also the existing subsidiary potential, as well as the effective operation of specialized firms in the field of planning and constructing complete new industrial plants, constitute a healthy base for the further intensive development of this branch of industry. It is obvious that these possibilities should be taken advantage of, and there is no doubt that Poland will realize fully any programme lying within her means.

Poland's share in additional world sugar production

The previously mentioned premisses also have their confirmation in the position held for years past with respect to developing countries seeking

THE POLISH SUGAR INDUSTRY

has been the ambition of the industry to fully cover the requirements of the people for this valuable nutritional product. The output capacity of this industry grew very rapidly and only negative economic factors, having their sources outside of the sugar industry, such as the economic crisis of 1930, certain social-economic relationships, the war of 1939-1945, limited the further rapid growth of consumption. Notwithstanding the enormous destruction during the war, the Polish sugar industry was capable to fairly rapidly reach the forefront of world sugar producers in the production of this commodity per head of population.

The Polish sugar industry at present produces an amount of granulated sugar to fully cover rational nutritional requirements of the population defined at 40-42 kg per person per year, as likewise its obligations as an exporter within the frame of the signed International Sugar Agreement. The International Colloquium devoted to development perspectives of the sugar industry and to world sugar consumption, which was held in Paris on November 20 and 21, 1972, pointed out to many government experts, industrialists and merchants that the role of sugar not only has not decreased, but on the contrary it is growing continuously, and that in accordance with an exponential curve. Assuming that the world sugar industry produced about 73 million tons of sugar in 1972, it can be seen that calculated per head of world population this amount is sufficient to cover less than 20 kg per head per year, or less than half of that consumed by inhabitants of Europe and North America. It is, therefore, obvious that in order to cover rational requirements of the world population, it would be necessary to double the production of raw material and the production potential of this branch of the food industry. Many years and enormous efforts are necessary to build up and effectively exploit such a potential. Taking population growth dynamics into consideration, it does not appear possible to attain such a state before the end of the 20th century, and in all probability not until in the 21st century will it be possible to achieve such a breakthrough. This refers not only to the sugar industry as such, but also to human nutrition and its full coverage in general.

The general recommendation put forward by the mentioned Paris Colloquium that efforts be concentrated on increasing world sugar production by an additional 20 million tons per year by 1980 has been estimated to be both positive and achievable. In this case, however, it must be noted that many countries will either not have their share, or will have only a slight share in this additional production, and that due to the following factors:

- geographical localization and climatic conditions,
- shortage of own professional forces and financial means,
- lack of experience and of an adequate industrial organization,
- lack of a scientific research base for the realization of complex technical progress also in this field of the economy,
- social-economic factors which have been sufficiently acutely presented by Prof. R. Dumont and Dr. R. Hiller.

As concerns the Polish sugar industry, its share in the proposed additional production can be considerable in view of the feasible premisses which exist in this respect. Reserves existing with respect to the area designated for sugar beet production constitute one of these premisses, and especially the other one as concerns yields of sugar per hectare. Production of sugar beets giving the highest output of nutritional units, acknowledged universally in Poland. The sugar-beet is a very high-

only the type of assistance loudly and unanimously discussed in Paris. In producing more sugar, Poland will be in a position to actually assist especially such countries with which she is developing trade relationships on the basis of mutual advantages. Many countries can be assisted in increasing sugar production by accepting Polish specialists for developing their own sugar industry. The tradition of 150 years, and the professional experience of many Polish institutions and firms connected solely with sugar production constitute the basis for this suggestion. From amongst such institutions, the following should be noted:

Institute of Plant Breeding and Acclimatization (IHAR) and the **Plant Breeding Association** both of which are maintaining and continuing the good traditions of the world renowned firms of Janasz and Buszczyński, breeders of acknowledged varieties of sugar-beet seeds. Research and experimental work of both of these undertakings on sugar-beet breeding has resulted in the development of new varieties characterized by high qualities as concerns yields and sugar content.

According to the Central Plant Varieties Research Station (COBORU) the following data was obtained in 1972 for some of the Polish varieties:

AJ 3	yields 48.7 t/ha and 18.5% sugar content
AJ Poly 2	" 53.4 " " 17.7% " "
AJ Sandopoly	" 45.1 " " 19.8% " "
M-69 IHAR	" 43.3 " " 18.0% " "
Trimono	" 50.5 " " 17.7% " "

It is possible with these varieties to obtain higher yields of dry matter and sugar per unit of area, which from a feed and fodder point of view together with world population growth and decline of area designated for industrial plants, is of basic economic significance.

The Institute of Plant Breeding and Acclimatization also deals with problems relating to seed production, proper application of agrotechnical measures for sugar-beet production, and evaluation of raw material designated for industrial processing.

The scientific and research personnel of this institution is highly experienced in plant breeding and production both in Poland and in other countries, under conditions in various regions and zones, and under various climatic conditions.

Problems connected with crop protection constitute the field of interest of the **Institute of Plant Protection**. This Institute deals with problems referring to the use of herbicides and pesticides, defining their waiting periods, their absorption by fodder and accumulation in plant tissue, and the harmful effect of these compounds on human organisms, animals and birds. Weed, disease and pest control have been problems of considerable importance since opinions have been agreed upon as to the need and necessity for intensifying agricultural production, especially of industrial plants.

The **Institute of Agricultural Mechanization** is the next centre of interest in sugar-beet production. It is engaged in investigating, testing and introducing new machines and equipment, and techniques of soil cultivation, seeding, agrotechnical measures, and harvesting of crops. In view of the high manual labour requirements of sugar-beet production, there can be some apprehension as to whether farmers will continue to contract sugar-beets. Mechanized production would serve to ease

of mechanization is becoming more important as technical progress and industrialization of the country proceeds, followed by rural employment problems.

The three mentioned scientific research centres cover all of the problems connected with sugar-beets as a raw material for the sugar industry.

The branch of activities connected with protecting the raw material designated for later processing – taking place in Poland chiefly in December and January – and problems as a whole on processing sugar beets in the factory fall under the **Sugar Industry Institute**. This institution is likewise well-known in world sugar industry centres in view of its considerable contribution to technical progress and to the technological development of sugar production from beets.

This institution, most closely linked with industry as such, deals with research and scientific problems and application of activities connected with storage and processing of beets, intensification and progress of technological processes in the factory, automation of complex and unit processes, modern analytical methods, operation of machines and installations including industrial energetics, and finally with economical problems. The enormous scientific achievements and experience of the staff taking part in solving difficult technical problems in Polish factories, as also in setting up more than 40 sugar factories constructed outside of Poland, constitute a potential which can be taken advantage of not only in the indigenous sugar industry.

The **Planning Office CUKROPROJEKT** dealing with the preparation of blue prints for the reconstruction, modernization and new construction of sugar factories is a highly useful and necessary unit for the sugar industry. It has at its disposal a considerable professional staff for planning buildings and their construction, for solving technical and technological problems on water requirements and sewage, on energetics, and finally on complete industrial complexes. Many valuable and interesting solutions proposed by the staff of CUKROPROJEKT are known not only in Poland, but also in a number of other countries.

Training of professional technical staff for the sugar industry and solving of scientific problems, mainly of a theoretical nature, are dealt with by the **Institute of Chemical Food Technology** of the Łódź Technical University.

Due to the unique character of studies of which many found their practical application in industry, and to the high qualifications of specialists leaving this University, the Institute is highly appreciated both in scientific and industrial world sugar industry circles.

Specialists on problems connected with the raw material are trained in **agricultural academies** which also carry out coordinated basic and utilitarian investigations, especially as concerns the nutritional value of plants and feed mixtures.

Multilateral advantageous trade

The achievements reached as a whole by the training, scientific-research and planning bases are effectively taken advantage of by the sugar industry. As already mentioned previously, these bases, which include thousands of highly qualified specialists, constitute a fundamental premise for reaching the conclusion that increasing sugar production in Poland can be relatively rapidly achieved. Thus in assisting to cover world sugar requirements Poland can participate in three fields of activity:

- Production of maximal surpluses of saccharose (in the form of granulated sugar) of high quality designated for export through the Foreign Trade Enterprise ROLIMPEX. This enterprise is highly experienced in commodity trade and exchange bringing considerable advantages to both importer and exporter.

- Developing exports of complete industrial objects by taking advantage of the valuable contacts and activities of the Foreign Trade Enterprise POLIMEX-CEKOP, and the experience of CHEMADEX, general supplier of complete industrial objects. The last mentioned enterprise has specialized in this field, and has its own designing and planning offices, as also outfitting establishments. Due to this type of concentration of forces and means it was possible to export more than 40 complete sugar factories and carry out modernization of many others.

- Exporting Polish scientific and technical achievements in the following fields:

- planning of new technologies,
- preparing technical and economic reports constituting a basis for making important economic decisions,
- planning technical documentation including offers,
- technical servicing in expanding or modernizing existing factories,
- servicing of technical supervision and consultation,
- organizing scientific research and planning units.

The **Foreign Trade Enterprise POLSERVICE**, in view of its many achievements and results reached, is in a position to realize this broad range of scientific and technical services.

In realizing the mentioned range of problems, Poland will fulfil its role of contributing to the feeding of the world's population through direct and indirect exportation of food. This commodity justly carries properties of high quality since there are no motives in Poland for accepting low quality, whilst many firm principles exist pointing to the motto that a healthy society constitutes the most valuable asset. It is thus hoped that Poland will achieve the best opinion expressed by the statement: "Food from Poland, the healthiest nourishment".

Dr. E. Waleriańczyk
Sugar Industry Institute
Warszawa, Poland



TECHNICAL SERVICES

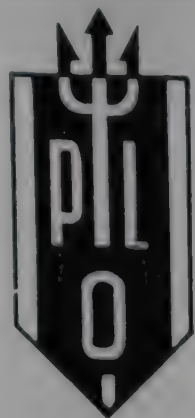
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HOW POLCOOP PROTECTS ITS EXPORT GOODS AT THE PORT

At the Export Services Enterprise in Gdańsk the railway line does not come to an end in front of the warehouse but continues through an iron gate directly into a large building. Owing to this the wagons, which during the season arrive there almost every day with potatoes, are driven inside the building where the goods are unloaded at the proper temperature. In these conditions neither frost nor rain are dangerous to the potatoes being unloaded there.

But in a not too distant future the protection against all types of weather will be greatly improved. Although the storehouses of the Export Services Enterprise have been constructed in two lines — two parallel buildings linked by a passage corridor, which greatly facilitates quick loading of commodities onto vessels — it is planned to still install there an air-ventilated chute similar to the ones in use in the biggest ports of the world. Then, conveyor-belts covered with cloth, similar in shape to a sleeve made of tarpaulin, will convey dry and frozen merchandise from the store-

Of the total quantity of approx. 90,000 tons of different food products stored by the Export Services Enterprise this year, potatoes amounted to 50,000 tons. The large storage space of the storehouses makes it possible to complete a cargo of different agricultural products and foodstuffs. The deep-frozen space particularly, makes it possible to preserve in perfect condition deep-frozen fruit and vegetables and even to properly freeze fresh fruit delivered to the storehouses from the nearby plantations. Besides, the air-conditioned space of the storehouses ensure the optimum conditions for the storage of processed fruit and vegetables. In case of need, the Export Services Enterprise also undertakes the finishing processes of the products prior to their shipment. Throughout Poland inspectors of the Quality Inspection Office (CIS), the State quality control organ, issues standardization certificates stating that the products meet the export standards in every respect, even at the Export Services Enterprise. Before the inspectors' control, owing to modern equipment

export such as, changing labels on tins or jars, or repacking jars with processed fruit and vegetables into cartons of different size. This is done in conformity with instructions received from the buyers at the last moment preceding the shipment of the goods.

As regards potatoes, the Export Services Enterprise does not only complete the number of wagons sufficient to prepare the determined quantity of the produce for shipment, but in conformity with the demands of the importers, the potatoes are also packed into bags of different size and weight (e.g. 25 and 50-kg. bags to Italy). The Enterprise also accepts orders concerning preparation of the produce in smaller packings (e.g. 2 to 5 kg. bags). Besides, the standards in Poland provide that each lot of potatoes completed for shipment and kept in the storehouse longer than 14 days, must be inspected, sorted and supervised by the CIS inspectors.

For re-cleaning, for sorting according to determined size, for automatic weighing and sacking, the Export

special sorting machine which can prepare 5 tons of potatoes for export within one hour.

In spite of the growing competition we continue to export potatoes to countries like Iceland, Iraq, Morocco and Chile.

Mrs. Regina Widermańska, M.Sc., Sales Manager of the Export Services Enterprise says:

— "As regards the shipments of potatoes and other products ordered by Polcoop we mainly render services connected with exports of these products to the Mediterranean countries, from Spain to Greece, including Algeria, Lebanon and Jordan. The longest distance we have shipped po-

tatoes by sea was from Gdańsk to Singapore, while the shortest distance was from our storehouses to the Soviet ports on the Baltic and to Finland". The large capacity of our storehouses favours the foreign customers of POLCOOP both as regards the exports of potatoes and processed or deep-frozen fruit and vegetables. Bags with potatoes or cartons with processed fruit and vegetables are stored on special pallets up to the roof of the storehouses. Owing to modern equipment especially imported, the products can be quickly taken down from the height of 6 metres.

The localization of the Export Services Enterprise at Gdańsk is very

convenient because recently a large quay for ferry boats has been constructed very close by. Since the POLISH STEAMSHIP COMPANY operates one of its large ferry boats for the transportation of passengers and goods between the ports of Gdańsk and Helsinki, by that very reason the number of connections between Poland and Finland, and in the future between Poland and the other Scandinavian countries should increase. Also the time of the sea transportation should be shortened for the buyers of POLCOOP and for the customers of the Export Services Enterprise of the Peasant Self-Aid Co-operatives. S.T.



PRODUCTS OF POLISH HORTICULTURAL CO-OPERATIVES

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Onions

Deep-frozen fruits
and vegetables

Fruit and vegetable
semi-products

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About twenty European and overseas countries import table potatoes from Poland. These are the countries that suffer short supplies of their home production or do not grow edible potatoes at all. The volume of exports from Poland depends on the yield in the world, what in turn is due to two most important factors: weather conditions and potato acreage.

'Improvement' of the weather still remains a disappointed hope of mankind. Its whims and its natural calamities, frequently afflicting different regions of the globe, considerably affect the potato market in supplies

operating importers. These requirements concern the varieties of the potatoes, size, packing, labelling, punctuality of delivery, eliminating defective tubers. Each opinion is carefully examined by the Polish exporter. Furthermore, there is a Polish branch specialist in Berlin during the exporting season who scrupulously notes every demand and opinion as to the quality of the lot delivered and immediately informs the Polish supplier in order to entirely meet it in the shortest possible period of time. If the quality differs in fact from that as stated in the contract a complaint is enter-

having similar properties are the most looked for. They originate from the potato plantations organized specially with the idea of exporting the edible potatoes. They are cultivated on the soils which are the best for this plant. The soils must not be too heavy, this being taken into consideration when choosing the regions of cultivation. If the potato is grown on sandy and ventilated soil its skin is smooth and light-yellow. In case potatoes are lifted in favourable weather condition then all adhering minerals come off leaving no signs on the tuber peel giving an impression as if they had

Polish Potatoes in Demand

and demand of this produce. In Poland, however, crops are large enough to satisfy our home demand for table potatoes and to obtain some surplus production for export purposes even in the unfavourable years. This is perhaps the most attractive commercial agent for our customers, that Poland is able to offer potatoes independently of the general drawbacks that often appear on the world potato market. Long-lasting contacts with some firms can support this opinion we believe.

On the fairly long list of importers who regularly buy from Poland you will find West Berlin merchants occupying its top places. Each other year they purchase Polish potatoes. Those potatoes give the importers their faithful and pleased customers who appreciate the excellent taste and usable advantages of the potatoes. Requirements of the consumers in West Berlin

tained at the point delivery. The conviction of the importer that a possible claim may be settled up without any delay is undoubtedly one more factor encouraging the importing of Polish potatoes, since this means business without risk to some exceed. To be, however, precise it has to be emphasized that the questioned quantity generally does not exceed one per cent of the volumes of the delivered food product. Taking into account that the qualitative demand has increased and the cargo is accepted in Berlin without complaints speaks for itself and does not require any further comments.

As it has already been mentioned this trade is possible, among others, thanks to regular business meetings with the West Berlin merchants. They ensure only those supplies needed on the market. Varieties like BINTJE, BACA, TOLPO, FIONIA, AMSEL, GRATA,

been washed. The best results are achieved through the proper and tested methods of fertilization and technique of field-crop production.

As to fertilization these methods concern simultaneous use of mineral and organic fertilizers used with skill. Some exports represent a view that limited mineral doses given together with organic fertilizers assure potatoes of natural taste and potatoes which do not become dark when cooked, what is of particular importance for consumers.

As far as the technique of field-crop production is concerned, it is essential to scarify the soil and to earth up, as well as, constantly weed the soil so as to obtain a high culture of the soil, since potatoes require an extreme attentiveness and this can assure the proper growth of a tuber.

Odds are that the number of the offered

creased. There are actually several centres of research in Poland to elaborate some new potato varieties. It is, however, a very hard task to work out a new valuable variety, for it requires numerous tests and arduous investigations, and, the tuber must show several properties like

- high and unfailing yield,
- resistance to potato disease and pests,
- regular shape, smooth pale-skinned and shallow-eyes,
- average size of the crop should be comprised within 50–70mm,

In 1954 the potato consumption per head amounted to 157,2 kos in the Federal Republic of Germany and only 0,8 kos of the processed goods while in 1970/71 — 82 kos and 15 kos respectively.

This dynamic increase caused a demand of industry for varieties of the best characteristics for processing and this is why the European plantators make efforts to obtain potatoes of a high dry matter content and possibly low monosaccharides level. The most appropriate variety in this respect cultivated in Poland, which has re-

since some varieties keep well while others keep worse. Offering potatoes to our customers in Berlin, we bare in mind that the majority of the goods delivered during the autumn season is intended for winter reserve, so the varieties are selected with a particular care. This selection as well as a proper classification have gained Polish ware potatoes the first class brand on the world potato market, including West Berlin. Actually the washed potatoes are being bought very keenly, although many consumers stick to tradition. That is why the cellar purchases may be supposed not to drop and reach

and Appreciated Abroad

- row tuber should not show signs of rust and black spot of the flesh when cut,
- flesh should not blacken on cooking,
- dry matter content should not disintegrate on cooking, and, the tuber should have a nice taste and smell. The flesh should be moderately mealy.

The ideal variety the Polish plantators intend to work out is that which will possess the above mentioned features and will be useful for both direct domestic consumption and commercial processing as chips, frites, etc. The most important feature of the potatoes for this commercial processing is a low monosaccharides content. There is already such a variety grown in Poland. OSA contains 16% starch and sugar does not exceed 0,25%. Processing of potatoes is a

cently been recorded in the Polish ware potato variety list, is 'SOWA'.

Another problem is the storage of the goods which should show no signs of deterioration, even when kept for a long period of time. This is essential both for direct domestic consumption commodity and for processing as well. Tubers which cannot cope with this requirement set up quite a risk for the customer. This is prevented by a careful sorting of potatoes to eliminate all defective tubers. As this function has its considerable practical meaning the Polish producers pay a particular attention to it. There are special working gangs of women who are taught to recognize sick tubers. Manual work is still indispensable in getting goods ready for export, especially as to eliminating these undesirable potatoes. But the resistance to storage is most of all due to the natural

a certain point of stabilization. Unfortunately, washed potatoes cannot be stored up for a longer period of time. This is their basic disadvantage and are far more expensive than those prepared in a traditional way.

Some economical and practical people will always continue to buy potatoes in jute bags of 25 or 50 kg net. POLCOOP Foreign Trade Enterprise, the main exporter of the Polish table potatoes, forwards some lots by road transport to West Berlin, shortening the time of delivery and avoiding several handlings on rails. This is fundamental to our receivers as the goods reach them in a better condition, namely fresh and non-damaged. To comply with our customers' wishes, Polcoop supplies potatoes not only during the autumn and spring seasons but also in winter. Before the food product is sent abroad, it is stored in specially built modern storage plants

HALF A MILLION TONS OF FISH

The annual catch of the Polish fishing flotilla exceeded in 1972 — for the first time in Polish fisheries — half a million tons. Polish fishing vessels can now be encountered in all parts of the Atlantic; the first units are already fishing in the Pacific and, soon, Polish fisheries will also include the Indian Ocean. The 1973 fishing year began very favourably indeed — the fishing flotilla of the Szczecin GRYF Deep Sea Fishery and Fishing Service Enterprise reached in January an all-time high in the Georges Bank catch. The refrigerated ship "Halniak" was sent from African fishing grounds directly to the Northern Atlantic to take aboard fish from the fishing units filled to capacity.

IN DALMOR FISHING GROUNDS

The DALMOR Deep Sea Fishery and Service Enterprise, Gdynia, organized replacement of fishing crews by airplane, to enable the fishing vessels to stay longer in the fishing ground and cut down idle sailings.

The first crews of the DALMOR flotilla fishing in the North-Western

Atlantic were released via air in the second part of last March. Long-range Il-62 aircraft took off from Warszawa with fishermen aboard; they landed in Newfoundland, from where smaller airplanes carried the men to the French islands St. Pierre and Miquelon, where, they released their fellow-fishermen.

Poles discovered a new fish

The modern Polish research ship, "Professor Siedlecki", known under the name of "sailing scientific institute of fisheries", returned home recently. Her scientific staff was in search of new maritime expanses rich in fish; they did substantial studies and brought back many interesting results.

The ship arrived in Gdynia after 123 days of sailing. She operated in the area of the Polish fishing fleet off the coast of South-West Africa, and later in the Indian Ocean.

The range of the work performed is very vast indeed: it includes ichthyologic, biologic, and technologic research. Fish kinds were reconnoitered; their habitats and

population density were examined, as well as, the natural conditions of their environment. Comprehensive control catch was performed, and useful values of the caught kind of fish were determined. Some of the studies involved improvement of fishing instruments.

The principal work concentrated on the still virgin water areas off the coast of South Africa. And it has been there that, at 700–1000 m. depth, "Profesor Siedlecki" scientists discovered an unknown variety of fish that they called "Black Peter". The first canned samples (fillets and fish paste) have been brought home for examination. The new fish, although small, has proved very tasty.

Three million carp in Kielce province ponds

The personnel of state-run fish farms started stocking ponds with fry. A total of about three million small carp, bred in several fish breeding centres, will be let into ponds of Kielce province. More than fifty thousand carp will be let into that province's largest pond — called "Kogut", in Wojcza village. Fry of Tolpyga and Amur — herbivorous fishes imported from the USSR — will be let into other ponds of the same fish farm.

The bank of new ideas

In the concern for pure water and air, many factories in Poland do spontaneous research, without being urged by official recommendations, aiming at finding means for counteracting poisoning of the natural environment of man.

To stimulate Polish engineering and research workers, an all-Poland "bank of ideas" has been created, pooling proposals sent from all parts of the country.

Engineers from Wroclaw presented some time ago an interesting suggestion, which had been tested at the DELTA-HYDRAL Combine. The engineering staff employed there used for waste purification ionite deposits and special synthetic resins; these substances have the ability to neutralize a variety of chemical compounds. The installation is now being tested, and the tests prove successful; its application enables purification of the waste water.

FOUR HUNDRED THOUSAND TRACTORS

One hundred and fifty tractors leave the assembly lines of URSUS Works every day. Prevailing among them are light-duty 30–50 HP units, in greatest demand among farmers.

Also growing is the production of heavy-duty tractors, intended for large farms, or for transport purposes. Assembly of trial units of 110 HP tractors (Symbol C-1201) is nearing completion. URSUS Works has already turned out four hundred thousand tractors of different types and varieties thereof; and half a million tractor engines.

Egg dish

Boil 20 partridge eggs and shell them; cut each egg in half, remove the yolk; pass the yolks through a sieve, add salt, pepper, caraway, and a spoonful of grated cheese; fill the whites with this paste. Grease an earthenware dish, arrange the egg halves in it, cover with tomato sauce (1 cupful). Fry onion rings to golden colour, place atop the sauce-covered eggs together with stripes of pickled paprika, sprinkle with another spoonful of grated cheese.

CONCERN FOR WATER PURITY

The Automatic Station for Measuring Water Quality specializes in the protection of water against pollution. In addition to basic measurements, such as: water temperature, solubility of oxygen in it,

are conducted. All the water quality measuring station in Poland are soon to be connected by telemetric relays with the central station in Wroclaw where an imported telemetric apparatus has al-

"Ursus C-385"—Leipzig Gold Medal winner

The latest model of Polish tractor "Ursus C-385" has been awarded a gold medal at the Leipzig Fair.

It is a 85 HP tractor, called "Nur", with 16-gear transmissions, servo-control system, hydraulic jack with automatic adjustment of ploughing depth, and a few other facilities.

Specialists who examined it were particularly impressed by the twin-seat, air-

conditioned driver's box ensuring perfect visibility. Results of ergonomic examinations have been applied to the design of the seat and arrangement of control elements — they met with the high assessment of the specialists.

URSUS Works is to turn out this year 3500 "Nur" tractors; a part of them has been sold to France, Spain, and Greece.

NEW TYPES OF DUMP TRAILERS

Sanok Bus Factory started the serial production of two new types of dump trailers for farmers, for which the demand is great. Both designs are a full success. Intended for shipment of dry and bulk goods, and also of root crops, they can be unloaded to three sides.

The first of the two designs is adapted for operation with "Star" trucks or other of the same class, as also with tractors. While the other operates with tractors only, but in its case several trailed units can be combined, to form a road train. The two designs differ principally by the tyres applied: car tyres can be used with the former, so that it can develop a speed of up to 80 km/h, at four ton payload. The latter is fitted out with special tyres, such as are used in agriculture; this increases the payload to four and a half tons, while reducing speed to 25 km/h.

Both trailers have a metal body and pneumatic brakes. Their loading boxes can be raised by special attachments, whereby their capacity is considerably increased — extremely useful at the transport of hay and other bulk materials.

It is anticipated that Sanok Works will deliver in 1973 to farmers at least nineteen thousand trailers of the first type, and ten thousand of the second.

5th place in the world

As anticipated by economists, this year's milk production in Poland will near the 16 billion litres mark, which will place this country on the 5th place in the world in milk output, after the United States, the USSR, France and the Federal Republic of Germany. Among CMEA countries which produced in 1972 near to 220 million tons of milk, Poland ranges second after the USSR (283 million tons). Calculated per capita of the population, Poland ranges first among these countries, with 462 kg. per capita (the average being 338 kg.); next comes the German Democratic Republic (396 kg.), Czechoslovakia (353 kg.) and the USSR

(340 kg.). As regards per capita milk production, only four countries in Europe come before Poland — Denmark, Holland, France, and Switzerland.

Polish dairy products are known outside this country. The principal foreign buyer of Polish butter is Great Britain, where we sell "Polbrand" butter; the same kind of butter is exported also to North Africa. A novelty is butter packed in 15 g. portions.

Polish cheeses, such as "Cheddar", "Mazurski", "Tilsit", and "Podlaski" are available in stores in the United States, Great Britain, Italy, and in Arab countries.

Cheese "à la Reine"

Production of excellent sheep's milk cheese has been a speciality of Poland from times immemorial, especially in the Carpathian Mountains area. Their recipes have been known abroad too. Let it be mentioned that the recipe for small round sheep's milk cheese (called "gomółka") was brought to France from Poland by Marie Leszczyńska, Queen of France; thence its name "cheese à la reine". Among the hundreds other kinds produced there this kind of cheese is also being made in France until this time.

Partridge eggs

Tiny partridge eggs appeared on markets in many countries eight years ago; Poland was one of exporters thereof. They very quickly became popular, thanks to their excellent taste and easy preparation. Partridge eggs are cooked in actually no time (up to one minute for hard boiled eggs). Because of their small size they are the very thing for tiny snacks, for decoration of various salads and casseroles served in shells. Moreover, it is their size that recommends them for children for whom a regular egg is too much. (it takes five partridge eggs to make one hen egg). Partridge eggs are nourishing and light, like hen eggs; and, moreover, they step up vitality — acting like Vitamin E.

They are also rich in mineral salts, proteins and fats. The amount of cholesterol is minimal (it is found in the yolk only, the white is entirely cholesterol-free). Partridge eggs are very nourishing — 100 g. give 160 calories.

PURE WATER FROM THE TAP

After many experiments, bulk production of sensational water purification units has been started at the Industrial Fixtures, Kraków. They are household fixtures with filtering valves which eliminate chlorine and fenol from the water supplied by communal waterworks, and impart to it the properties of good water. They can be

FULL BEER

The ŻYWIEC COMBINE, consisting of beer breweries at Żywiec, Cieszyn, and Bielsko-Biala, makes beer of three, and six

to Great Britain, the United States, Canada, Yugoslavia, and even to Australia. Of late, the Żywiec brewery is making por-



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Fishery management in the Szczecin and Vistula Lagoons

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The Szczecin and Vistula Lagoons constitute a transitional environment between the salty waters of the Baltic and fresh inland waters. The slight but permanent connection with the Baltic to the north, and influx of fresh river water to the south results in the fact that the water in both lagoons is highly fresh and only in the northern parts of both bodies are the waters periodically salty.

The small depth of the lagoons averaging 2 to 4 meters, and the transitional character of their waters, as also the considerable mixing and warming of these waters in summer, influences the intensity of mineralization processes which in turn results in a high level of biological production. From amongst the fish species found in the lagoons, fresh water fish dominate (roach, bream, pike-perch) together with migratory (eel). Sea species, mainly herring, occur periodically only, and that chiefly in places where the lagoons are connected with the Baltic Sea.

The hydrological character of both lagoons differs, and is the result of the varying intensity of inflow of inland waters which distinctly influences their fertility. Investigations have shown that the biological production of the Szczecin Lagoon measured, among others, by the average biomass of the benthos per unit of area is more than double that of the Vistula Lagoon. This unequal fertility of waters is distinctly reflected by their various

THE SZCZECIN LAGOON

The Szczecin Lagoon is a body of extraordinary fertility. Its yields of fish expressed as the amount caught per unit of area is extremely high, as a rule exceeding in its Polish part 50 kilograms per hectare and giving an annual catch reaching three thousand tons.

The ichthyofauna of the Lagoon includes several fish species of considerable importance both for the internal market, and for export purposes (eel, pike-perch). The introduction of more effective measures for protecting fish stocks has resulted in the distinct growth of catches observed over the past several years in the Polish part of the Szczecin Lagoon.

All measures undertaken in this respect are based on scientific premisses determined and put into effect jointly by the Szczecin Sea Office and centre of the Sea Fisheries Institute in Świnoujście. Protective measures in the Szczecin Lagoon consist of defining specific protective magnitudes for each species of fish and its designation, of determining minimal mesh sizes of fishing nets, protection of spawning and spawning grounds and finally of limiting the type of fishing equipment allowed and its distribution over the fishing grounds. Parallel to these broad protective measures, systematic catches of low value species are carried out such as the ruff and white bream, which compete for feed

In order to increase catches of fish, stocking of the Lagoon on a broad scale is being carried out for some years past, in parallel to full the utilization of the natural reproduction potential possibilities of fish. The latter refers before all to species valuable from the point of view of utilization, and in demand by the market, as also to species the reproductive potential of which is insufficient in relation to existing feed reserves. Thus the Szczecin Lagoon is being mainly stocked with pike, vimba bream, whitefish, tench, crucian carp and experimentally with rainbow trout. The extent of stocking is considerable, and shows an increasing tendency from year to year.

Roach, bream and pike-perch are numerous in the Lagoon although based exclusively on natural reproduction. This is evident from the decisive dominance of these three species in catches (around 80%). Most numerous are roach which actually constitute about one third of the total catch, followed by bream the share of which is only slightly less than that of roach, and thirdly pike-perch. Recent catches of the last mentioned fish show a growing tendency.

Catches of eel in the Polish part of the Szczecin Lagoon have dropped considerably in recent years, from 450 tons in 1967 to 145 tons in 1972. This is the result of the worsening of environmental conditions and the considerable limitation of eel migration into

The share of the remaining species in catches is slight and as a rule does not exceed 20% of the total catch of fish.

Catches of fish in the Szczecin Lagoon in 1971 and 1972 (in tons)

Species	1971	1972
Roach	963	1,148.0
Bream	806	992.0
Pike-perch	421	480.0
Eel	212	145.0
Perch	160	196.0
Blue bream	22	63.0
Pike	43	44.0
Silver bream	30	33.0
Whitefish	14	11.0
Salmon	2	2.2
White bream	—	63.0
Herring	—	23.0
Other species	41	38.0
Weed fish	336	85.0
Total	3,050	3,323.2

A further increase of catches in the Lagoon, especially of valuable species in demand on the market, will depend upon introducing improved rules and regulations, and expanding stocking operations. Furthermore stocking will prevent extinction of certain species (for example of whitefish), the decline of others (eel, pike), and will likewise lead to an enrichment of the ichthyofauna with new elements (rainbow trout). Proper protective and stocking policies should render it possible to increase the share of pike-perch and bream in catches, and in the first place to restore the eel population. The possibility of increasing the eel population in the Lagoon will depend exclusively on undertaking intensive and systematic stocking with montée or somewhat older fry as soon as possible. Increasing the output of fish per unit of area of the Lagoon to 70 kilograms is an achievable possibility even within the next few years.

THE VISTULA LAGOON

The Vistula Lagoon is a water basin considerably less fertile than the

Szczecin Lagoon. Output of fish here is similar to that of lakes (20 kilograms per hectare), and annual production ranges between 600 and 700 tons. Catches indicate presence in the Lagoon of typical fresh water and sea fish. From amongst predacious fish pike-perch, pike, eel and perch predominate, non-predacious species consist of bream, roach, tench, silver bream, carp and herring. The fresh water species are to be found mainly in the south-western part of the Lagoon. Their range depends upon the season of the year and the degree of saltiness of the water. Salt water species, mainly herring, are distributed to the west near the inflow of sea waters.

Most of the fish in the Lagoon find favourable conditions for reproduction and growth.

Spawning of bream, roach and tench takes place in the south-western part densely overgrown with water vegetation, whilst spawning of pike on shallows, and of pike-perch along the shoreline sandbanks. The Vistula Lagoon is a shallow basin with overgrown shores and partially slimy bottom. The waters are well heated in summer and as such create favourable feeding conditions for fish living in it. This is shown by the very rapid rate of growth of most of the nonpredacious species. Large amounts of small fry likewise create favourable feeding conditions for the predacious species (eel, pike-perch, pike).

Protective measures in the Vistula Lagoon

In order to increase the number of valuable fish species in the Lagoon, a series of management measures are being undertaken. From amongst these, stocking and protection should be mentioned in the first place.

Most of the valuable species of fish found in the Lagoon are under protection. The protective measurement for eel has been fixed at 45 cm, for pike-perch 46 cm, bream 35 cm, pike 40 cm, tench 25 cm and for silver bream at 28 cm.

The above-mentioned protective limits for most of the fish species are on the whole higher than those accepted for other water bodies, thereby allowing the fish species under protection to attain sexual maturity. Apart from these protective lengths, limits are likewise imposed on catches, the magnitude of which is defined for specific species. There is also a ban on the use of draft equipment during the vegetation period in order to prevent the destruction of spawn and young fish. In addition all catches are prohibited on spawning grounds which have been precisely defined and reach some 10% of the total area.

In view of the favourable conditions existing for natural reproduction of the most valuable fish species, stocking is limited to eel only, the catches of which have been showing a distinctly downward trend over last few years. The level of stocking with eel, an operation which is being carried out for the last three years, is around one ton montée per year and should allow for rebuilding the population of this species in 2 to 3 years.

The basic relationship existing between predacious (eel, pike-perch) and non-predacious (bream, roach, tench) species is in line with natural conditions of biological production in the Vistula Lagoon, and should continue to be maintained. Richness of the Lagoon and high feed reserves confirmed by good gains indicate the advisability of increasing the fish population of species feeding on invertebrate fauna. Limitations should be imposed on the less valuable predacious species such as perch and ruff, as also white bream which is a feed competitor for bream.

Both the Szczecin and Vistula Lagoons, due to their small depths and even bottoms, constitute easy catching grounds. For this very reason the limits imposed on catches should be strictly observed. It is therefore indispensable that a uniform system of biological production, management and protective measures, as also of catches be conducted in each of these water basins.